# THE POTENTIAL FOR DATA ENTRY OPERATIONS IN THE CARIBBEAN REGION

## Introduction

Data entry is a growing service industry in the Caribbean Basin. Caribbean countries, with large pools of educated young workers seeking careers in the business service sector and facing a growing unemployment problem, are eager to attract labor intensive industries to their shores. The congressional Office of Technology Assessment, in a report entitled, "Automation of America's Offices", issued in December, 1985, predicted that "all signs indicate that offshore data entry could undergo rapid growth over the next 10 to 15 years." Our research confirms this predicted growth, as numerous firms have sprung up throughout the Caribbean Region in the past few years. The full extent of the growth, however, remains uncertain.

The Caribbean region has become increasingly a center for offshore data entry for U.S. companies, due to its proximity to the U.S. and the region's high labor availability at low cost. The Caribbean Basin's geographic advantage, due to its close proximity to the U.S., allows for quicker and cheaper airline transportation for documents, as well as for managers making visits to the data entry facilities for purposes of quality control. In terms of labor costs, the Caribbean Basin presents an attractive advantage over the U.S. The U.S. direct labor costs for data entry services run from $6.00 - $10.00 per hour as compared to the Caribbean rate of US$0.73 - $0.96 per hour.

The strong growth of the U.S. service industry, responsible for approximately 90% of the 36 million net new jobs created in the U.S. over the past 20 years, accounts for the momentum behind the growth of Caribbean data operations. Over 3,500 Caribbean basin workers are now employed in information age jobs, such as computerizing U.S. telephone books, typesetting manuscripts, keypunching data from credit card slips into microcomputers, keypunching address labels, processing coupons and applications, etc. Furthermore, approximately 20,000 additional jobs are expected to be created through 1990 with the introduction of teleports and other satellite links that will allow inexpensive high-speed data transmission to the U.S. mainland. These teleports are expected to replace the current, more common, practice of sending computer discs by airfreight to the U.S.

This report will endeavor to do the following:

- Identify and briefly analyze the critical aspects involved in establishing offshore data entry operations;

- Identify and profile those countries most suited for establishing data entry operations;
- Identify and describe the type of firms most likely to be attracted to offshore data entry opportunities;
- Identify U.S. firms with already existing operations in the Caribbean region;
- Identify Caribbean data entry firms without U.S. partners; and
- Identify U.S. firms without data entry operations in the Caribbean interested in establishing such a facility.

For purposes of this report, the analysis was limited to the island countries of the region and did not include Central America. The data, analysis, and discussion presented in this report are a result of interviews conducted with over fifty companies, forty-five of which were "service bureaus" that provide data entry services to their clients on a contractual basis.

## Section 1: Understanding the market: critical factors to be considered in establishing offshore data entry operations.

The data entry industry is highly competitive and very much driven by certain market demands. The success of offshore data entry operations is predicated on several key factors. The critical variables that a U.S. company must consider prior to establishing an offshore operation include the following:

- Turn around time for work completion
- Quality control/reliability
- Labor and production costs
- Labor force: size, educational level, and ability to be trained
- Reliability of communication/transportation
- Available infrastructure
- Language
- Political stability
- Business environment: tax incentives, government regulations, labor relations, etc.

While all of the above variables are to some degree interrelated, the first three factors, turn around time, quality control, and costs, are the crucial ones in determining whether a company will set up an offshore data entry operation in the Caribbean. Of those three variables, the turn around time for data entry proves to be the single most important factor. The turn around time for offshore data entry determines the following: the needs that can be met by an offshore facility and, therefore, the type of company that would be interested in that offshore facility.

Data entry needs of U.S. companies and organizations tend to fall into three approximate categories: jobs requiring 24 - 48 hour turn around time; jobs that can be turned around between 3 and 10 days; and those that can be done in more that 10 days. Most of the data entry requirements in the U.S. today are met within 48 hours and therefore are not likely to be fulfilled by offshore operators, who require at least 3 days for the entry and intercontinental transmission of data. Facsimile transmission exists, but until it becomes faster, more versatile, and less expensive, it is not a viable solution for companies with high volume data entry needs. However, companies needing a 24 - 48 hour turn around time, exemplified by the banking, insurance and travel industries (which generally have a high, steady volume of data to be processed), are increasingly imputing their data directly on-line, and therefore represent a diminishing market for independent keyboard-operated data entry facilities.

The other extreme, that of the least time sensitive jobs which can be handled in 10 days or more, is not a growing market niche for data entry operators in the CBI region for two reasons. These types of jobs, which tend to be large batch or text jobs, can be priced more competitively by Asian operators (i.e., Sri Lanka) where wages are even lower when turn around time is not a critical factor. Moreover, these jobs are increasingly being machine read by optical scanners, and therefore represent a shrinking market.

Jobs requiring a 3 to 10 day turn around time present the best window of opportunity for data entry in the Caribbean. Caribbean operators can offer a competitively priced package, with considerable discounts over U.S. based data entry operators. In exchange for lower prices, however, U.S. companies must be willing and able to accept a slightly longer turn around time, in the range of three to seven days. Also, the psychological barrier many U.S. companies and their clients have with regard to their data being shipped overseas is real and must be considered by anyone contemplating starting a data entry operation offshore.

Quality control, the second most important variable listed for consideration, is directly related to the reluctance U.S. companies have to their data being sent offshore. Service bureaus that offer offshore data entry to their clients must be

able to assure that both quality control (99.9% error free) and reliability are equal to the U.S. based data entry facilities. Without that guarantee, an offshore data entry operation has little chance of success. Equity participation or, minimally, management control by an experienced U.S. data entry company in the offshore company thus appears to be a critical element in determining the success of the operation.

Labor and production costs, therefore, register third behind the variables of turn around time and quality control and reliability. Although they are attractive elements of offshore data entry, low labor costs and low transportation costs (due to the proximity of the Caribbean region to the U.S.) in the Caribbean only come into consideration after the other two primary requisites have been met. Only after finding the turn around time satisfactory and the quality control and reliability precise will a company contemplate sending its data offshore, at which time the cost savings become a considerable factor.

The remaining entries on the list of variables all have an impact on the three key factors described above in one fashion or another. They are important for determining the relative advantages and disadvantages of locating a data entry business in one country over another, but, alone, they are not the key determining factors as to the economic viability of establishing such a venture.

Section 2: CBI Countries with the greatest potential for developing an offshore data entry industry.

Exhibit 1 presents a brief profile, based on the above described variables, of seven Caribbean countries that appear to have the greatest potential for developing a data entry industry. While the selection method was by no means rigorous, the seven countries chosen all met the requisite requirements, and in fact had already witnessed the establishment of one or more data entry companies.

Two groups emerged out of the seven countries. One group, consisting of the larger, more populous islands (Jamaica, Dominican Republic, Barbados), offered superior communication and transportation links to the U.S., better infrastructure, a larger labor force, and, consequently, greater capacity. Significantly, American Airlines, the only large company to set up offshore operations for its own internal corporate needs, selected Barbados and the Dominican Republic for its sites. After all, these are the islands that offer the most reliable and regular air transportation to move hard copy south for processing. By the same token, these are also the countries that have the most

advanced telecommunications and will stand to benefit soonest from the advances in the technology of facsimile transmission, which will ultimately make air transport of the original hard copy obsolete. With the above comparative advantages, these three countries should target large companies that are end users (moving their own corporate data entry offshore), larger service bureaus, and companies contemplating not just data entry, but also more sophisticated data processing and associated services.

The group of smaller countries, St. Kitts - Nevis, Grenada, St. Lucia, and Montserrat, offer attractive alternatives for smaller service bureaus that don't require large capacity and prefer to remain "big fish in little ponds". In these countries, the governments, by definition, are smaller, and smaller investors are more likely to receive the personal attention that they might not find in the larger countries.

A crucial factor that must be considered if selecting a smaller island as a site is the availability and retain-ability of labor. Small islands with developed tourist industries offering higher paid service jobs outside the data entry sector are at a clear disadvantage in terms of attracting data entry operators. Since the data entry business carries a considerable up-front training cost for operators, companies will be reluctant to set up in an environment where their workers can be easily wooed away by the higher paid jobs in the tourist industry. Of course, it is the more tourist oriented islands that have the more frequent and reliable transportation and communication links to the U.S.

Section 3: Target groups to attract to the Caribbean region.

Two distinct target groups exist for those Caribbean countries wanting to develop their offshore data entry industry. They are the service bureaus and those companies that have large internal needs for data entry in their normal everyday business. The latter are what we have been referring to as "end users", and they are not necessarily in the data entry business. Service bureaus, on the other hand, are specifically in the data entry business, and they act as contractors performing data entry tasks for entities requiring such services.

As mentioned earlier, very few "end users" have actually set up data entry operations in the Caribbean. American Airlines and the publishing company, R.R. Donnelley & Sons (in Barbados), are the only significant exceptions to date. Several reasons exist for the past reluctance of end users to move offshore. They include the following:

- The company was contracting out for its data entry needs anyway, so why consider doing its own work internally and hassle with going offshore;

- Data entry departments of large companies stood to lose from operations moving offshore, so they never considered it as an option;

- The decision to go offshore, already a strategic decision that required upper management approval, never reached that stage of decision making;

- Corporate decision makers were unwilling or unable to overcome the psychological block of shipping data offshore (a factor that will eventually become irrelevant with improved facsimile).

In brief, while moving data entry offshore would cut costs, most large companies do not appear prepared to do so themselves.

Exhibit 7 is a copy of the memo that we sent to nearly 100 Arthur Young partners (Exhibit 8) to discuss with specific client companies. The companies selected were all medium to large size entities, and represented several industries that have large data entry needs, such as travel, credit card, banking, insurance, department stores, mail order, data base, and oil companies, etc.

The response from our client companies was generally cool and reflected the aforementioned reasons for not moving offshore. Some companies perhaps could be convinced to explore the possibility, if a concrete opportunity were offered to focus on the issue (i.e., a trade mission). A larger number could be interested in using service bureaus with offshore facilities as a way of lowering costs without the trouble of moving offshore themselves.

Service bureaus, on the other hand, seemed much more eager to explore offshore opportunities, and indeed many had already contracted out work offshore even though they themselves had no equity position or management role in an offshore operation. Operating within a highly competitive environment, the service bureaus we interviewed were all interested in cutting costs, although not all were keen on going offshore. Some had had previous bad experiences with shipping data offshore and others had simply not overcome the psychological block of going offshore.

The service bureau industry is a highly fragmented and localized industry, serving a geographically limited clientele. Only a handful of service bureaus have over 500 operators and serve clients in more than one location. Most service bureaus are in fact "mom and pop" operations. In order to ascertain the interest among service bureaus in exploring offshore opportunities, we surveyed all those bureaus with more than 50

operators that were members of the Data Entry Management Association (DEMA). DEMA is the largest of the professional associations in this industry and also the most representative.

Exhibit 4 is a copy of the letter sent to forty-five service bureaus, all of which were also interviewed on the phone or in person during the DEMA annual conference in Boston last fall. Exhibit 5 lists the three basic questions that were explored during the course of the interview, and Exhibit 6 enumerates those companies that reacted positively to exploring further their offshore opportunities.

In the course of our research and interviews we also compiled a list of the U.S. companies with existing data entry operations in the Caribbean (Exhibit 2) and a list of data entry companies in the CBI region that presently have no U.S. partner with an equity stake in the company (Exhibit 3). These lists should not be considered exhaustive, although we are fairly certain that we captured most of the existing companies in the Caribbean islands, particularly the larger ones. Due largely to the relatively low capital requirements for starting data entry operations, the industry tends to be very mobile and hence it is difficult to identify all the existing companies. Moreover, the relationships between the offshore companies and their U.S. partner is not always clear, so it is difficult to determine which of the offshore companies truly have U.S. equity participation.

## Section 4: Conclusion and recommendations.

Although information regarding data entry operations in the Caribbean was difficult to assemble, several key findings emerge that are worth consideration. These include the following:

- Numerous data entry companies, particularly smaller ones with under 100 operators, have sprung up throughout the Caribbean;
- Few large U.S. companies have their own internal data entry operations in the Caribbean, American Airlines and R.R. Donnelley & Sons being the notable exceptions;
- There has been a recent proliferation of data entry companies in Jamaica, many of which are struggling to get enough work to be profitable;
- Caribbean companies without U.S. partners universally suffer from the inability to access the U.S. market and sell their services;

- U.S. service bureaus are the most likely candidates to establish offshore operations, and therefore are better targets than "end users" to pursue in promoting investments into the Caribbean;

- On-line data entry and optical scanners will capture sizeable shares of the market in the future, but all signs point to a growing market for data entry in the next decade, much of which will continue to be entered manually; and

- The cost/profit structure of the industry, coupled with technological advances, will inevitably drive increasingly larger segments of the manual data entry industry offshore.

What assistance could the Agency for International Development (AID) offer to stimulate job growth in this industry in the Caribbean region? The U.S. companies that were predisposed toward exploring offshore operations (Exhibit 6) were most interested in having more information from AID and in participating in an industry specific trade mission to this area.

Our recommendations for follow-up are twofold: Service bureaus are the best targets for a promotional campaign to attract new investors to the data entry industry in the Caribbean and therefore should be the focal point of such a campaign; and a publicized industry specific trade mission is the best vehicle through which to stimulate additional interest and activity in this very promising sector for private enterprise development in the Caribbean.

One final observation. Manually keyed data entry requirements, the need for which will persist for quite a few years, will increasingly move offshore. The question is whether the Caribbean region will seize this window of opportunity that is available before technological advances (i.e., inexpensive facsimile transmission) cut into this comparative advantage of physical proximity they presently enjoy vis-a-vis the low cost countries in Asia.

## EXHIBIT 1

COUNTRY PROFILES OF SELECTED CBI COUNTRIES WITH DATA ENTRY POTENTIAL

### BARBADOS

Population: 253,000 (1985)

Language(s): English Speaking

Area: 166 sq. miles

Geographic Proximity to US: Most easterly of Caribbean Islands, lying 270 miles northwest of Venezuela.

Growth Rate: 1% per annum (1985)

Political/Economic Stability: prosperous economy, high unemployment, vulnerable to international market fluctuations due to sugar industry. Politically stable.

Literacy Rate: 97%

Labor Force: 113,200; large supply of unskilled, semi-skilled and skilled labor.

Labor Wages: There is no legislated minimum wage for industrial laborers. Average wage for unskilled workers is US $28 p/wk; average wage for key punch operators is US $ 80-100 p/week. Average per capita GDP is US $4,430 (1985).

Labor Relations: One main labor union in the country, The Barbados Workers Union, with total membership of 27,000 (1985).

Infrastructure: developed infrastructure (no railroads, most of highways are paved, 1 major and 2 minor ports, many shipping lines, 1 international airport, servicing 13 international airlines.

Communications Linkages: Islandwide automatic telephone system provided by B.E.T. (West Indies) Ltd, radio links, 3 radio and 1 TV station, international telex/telegraph and facsimile services via satellite, microwave and undersea cable links, 5 newspapers.

**Investment Incentives:** Govt attempting to increase export oriented investment projects; tax incentive for investors; various import and export duty exemptions; nine free zones; repatriation of profits; US govt's Caribbean Basin Initiative, USAID; OPIC, Industrial Development Corp.

**Existing Data Entry Operations:** Barbados was the site of the first offshore data entry operation owned by a US company (American Airlines). The country currently has ten data entry firms, of which seven have a U.S. parent (AMR Caribbean Data Services, Donnelley Caribbean Graphics, International Data Services Ltd., C.S.P. Systems, N.A.L. Data Services, Offshore Keyboarding Corporation, and Barbados External Communications). The country is in the process of establishing advanced satellite communication (teleports) for use in the data entry field.

## DOMINICAN REPUBLIC

Population: 6.1 million (1984)

Language(s): Spanish; English frequently used in commerce

Area: 18,700 square miles

Geographic Proximity to US: Located between Cuba and Puerto Rico on the island of Hispaniola, which it shares with Haiti.

Growth Rate: 2.5% annually (1970-84); 0% in 1985

Political/Economic Stability: Economy based mainly on agriculture, which remains strong. Relatively stable political situation.

Literacy Rate: n/a

Labor Force: 2 million. Mainly unskilled and semi-skilled; technical and managerial personnel are less available.

Labor Wages: Minimum wage of $44 p/week. Benefits = 25-30% of wage cost.

Labor Relations: 20% of the labor force is unionized. Two types of labor unions - Corporate and Trade Unions. Moderately strong.

Infrastructure: good infrastructure, consisting of 994 miles of railroads; 7,079 miles of highways (1/2 paved); 5 major and 17 minor ports; numerous shipping lines; 3 international airports servicing 12 airlines; domestic airports in most cities.

Communication Linkages: Automatic domestic telephone services; direct dial for international calls to all points in North America; 170 radio stations; 6 TV stations; microwave and cable links connect to Haiti, Puerto Rico, US and Europe. All American Cables, RCA & Global Communications provide world wide cablegram and telex service 24 hrs/day via CODETEL (GTE subsidiary) facilities.

Investment Incentives: Four industrial free zones (no taxes); repatriation of profits and capital; easy access to domestic and foreign currency; govt promotion of industries; CBI, USAID; OPIC assistance.

- **Existing Data Entry Operations:** A subsidiary of American Airlines, AMR Caribbean Data Services, has set up a data entry operation in the San Isidro free zone, where it employs over 350 operators.

## GRENADA

Population: 100,000 (1987)

Language(s): English speaking

Area: 133 square miles

Geographic Proximity to US: Most southerly of the Windward islands, situated 100 miles southwest of Barbados and 90 miles northwest of Trinidad.

Growth Rate: 1.0% (1985)

Political/Economic Stability: Economy based on agriculture (90% of exports in 1984), vulnerable to weather conditions and international market prices; unbalanced budget has created problems, limiting growth. Politically precarious.

Literacy Rate: n/a

Labor Force: 28,500 (1984); large supply of trainable labor, both unskilled and semi-skilled. Supply of trained data entry operators, due to 11 year on-off presence of data entry operation (Key Universal Ltd.).

Labor Wages: A statutory minimum wage rate exists only for agricultural workers, although the introduction of a more general labor code is under review. Specific wage rate for typists/data entry operators unavailable, however receptionists receive US $150 p/month.

Labor Relations: Four labor unions, with a total of 1/3 of the labor force. Unions are not affiliated with any political party.

Infrastructure: Adequate infrastructure - no railroads, 600 miles of highway, 3 airports servicing 4 airlines, one major and 8 minor ports, numerous shipping lines.

Communication Linkages: Grenada Telephone Co. operates several automatic exchanges connected by trunk lines. Domestic services being upgraded/expanded with digital facilities; Cable and Wireless provides international telephone, telex, and cable services; one TV and one radio station; 2 newspapers.

Investment Incentives: Fiscal Incentive Act; tax holidays and exemptions; Industrial Estates Program; CBI; USAID and OPIC assistance.

Existing Data Entry Operations: Key Universal Ltd., which ceased its operations in 1983, reopened in June 1987. A subsidiary of Analysis Programming Corp. of Connecticut, Key Universal has Fortune 500 clients (telephone and insurance co.), and employs 50-200 workers; no satellite connection.

## JAMAICA

Population: 2.3 million (Dec. 1984)

Language(s): English Speaking

Area: 4,412 sq. miles [3rd largest island in Caribbean sea].

Geographic Proximity to US: 600 miles south of Miami; 700 miles southwest of Puerto Rico.

Growth Rate: 1.1% per annum (average over past 5 yrs)

Political/Economic Stability: resurgence of economic growth; high unemployment and inflation rates slightly waning. Some political instability.

Literacy Rate: 86+%

Labor Force: approx. 1 million (Oct. 1984); large supply of unskilled and semi-skilled labor.

Labor Wages: Minimum wage is US $0.27 p/hour for normal 8 hour work day. Benefits = 25-30% of base pay. Average per capita GDP is US $1,745 (1984).

Labor Relations: Three major trade unions with total membership of 200,000 (1984).

Infrastructure: good infrastructure (extensive highways & railroads, three major ports, two international airports, and domestic air services).

Communications Linkages: Fully automatic telephone network with 136,778 stations; direct dialing to North America. Telephone and telex services are provided by the Jamaica Telephone Co. Ltd. Jamaica International Telecommunications Limited (JAMITEL), a j/v between the Jamaican Gov't and Cable & Wireless (West Indies) Ltd, is responsible for all international communication. Services provided included telephone, telegraph, television, telex and lease circuits.

Jamaica is planning on opening the region's first teleport facility this year, linking Montego Bay (North coast) with a US domestic satellite for transmitting data, voice and video. The teleport will provide a 2-way satellite link and a distribution network to a specific area, with the aim of generating more economic development in that region.

Investment Incentives: Jamaican govt attempting to increase export oriented investment projects; tax holidays for investors; various import and export duty exemptions; Export Free Zones; repatriation of profits; US govt's Caribbean Basin Initiative, USAID; OPIC.

Existing Data Entry Operations: Of all the Caribbean islands, Jamaica has the most extensive data entry network. Jamaica already employs more than 2,400 workers in over 25 data entry firms, 16 of which opened up last year alone (CBI Bulletin, July 1987).

## MONTSERRAT

Population: 11,850 (1985)

Language(s): English speaking

Area: 39.5 square miles

Geographic Proximity to US: Part of the Leeward Island chain, located 1,350 miles southeast of Miami, 270 miles southeast of Puerto Rico, and 27 miles southwest of Antigua.

Growth Rate: 0.05% (1985); Real GDP was 3.3% in 1984.

Political/Economic Stability: Small size & population and limited resource base limit economic growth, however tourism, light manufacturing and construction have now replaced agriculture and, consequently, public sector finances have grown stronger. A dependant territory of the United Kingdom. Presently politically stable.

Literacy Rate: n/a

Labor Force: 6,500 (1984); skilled and semi-skilled laborers; small but reliable labor force trained in electronics assembly and communications.

Labor Wages: No minimum wage rates. Wage rates are higher than other Eastern Caribbean nations, ranging from US $1.05-1.77 p/hour for general clerical/typing work, not including benefits.

Labor Relations: Four unions operate in Montserrat, with a total of 1,500 members (1986).

Infrastructure: Somewhat limited infrastructure - no railroads, 110 miles of trafficable roads, one major port, several shipping lines, one small airport for inter-island services servicing 4 airlines.

Communication Linkages: Telecommunication service is provided through Cable and Wireless; telephone, telegram and telex services available through radio connections with Antigua; microwave installation complete and direct dialing available; 2 TV and 3 radio stations.

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**Investment Incentives:** Fiscal incentives, cheap rental of space in Industrial Estates Program; export allowances, repatriation of profits, etc.; training incentives; CBI, USAID, etc.

**Existing Data Entry Operations:** Amwork M/R Systems, Ltd., a wholly owned subsidiary of a US company (Amwork Systems, Inc.), does work for Fortune 500 companies (Prentice Hill, Sterling Software, Control Data) and employs 60 workers in Montserrat; modern facilities, cost competitive, interested in expanding operations.

## ST KITTS - NEVIS

Population: 45,000 (1984)

Language(s): English speaking

Area: 104 square miles

Geographic Proximity to US: Part of the Leeward Islands group in the Eastern Caribbean, lying about 225 miles southeast of Puerto Rico.

Growth Rate: .39% (1977-84)

Political/Economic Stability: Economy directly tied to fluctuations in sugar market; attempting to diversify, especially in tourism and the service industries, due to lack of raw materials. Politically stable.

Literacy Rate: 90%

Labor Force: 19,000 (1984); fair supply of adaptable, trainable labor. Various trade skills are held by members of the work force; vocational and technical training programs available.

Labor Wages: Minimum wage laws only apply to domestic servants and store employees. Average wage rates for data entry operator is US $0.74-85 p/hour. Benefits = 10-20% of wage costs.

Labor Relations: There are three trade unions in St. Kitts-Nevis with a total of 3,200 members (1986).

Infrastructure: Adequate infrastructure - limited railroads and highways, one international airport servicing 6 airlines, one deepwater port, and several shiplines.

Communication Linkages: Limited, but improving, telecommunications. Direct dial service to the US is available, and a more extensive system is currently being installed by SKANTEL, a j/v between the govt and Cable and Wireless. The telephone system's capacity will more than double and open up new avenues of communication; one TV station, cable TV and 2 radio stations.

Investment Incentives: Govt willing to construct factory shells for factories under the Industrial Estates Program; Fiscal Incentives Act offers tax holidays, export allowances, duty exemptions, repatriation of profits; protection of investment under the Investment Guarantees Agreement between the US and ST. Kitts-Nevis; CBI; USAID and OPIC assistance.

Existing Data Entry Operations: Key Universal, a wholly owned subsidiary of Appalachian Computer Services, grosses US $48 million in revenue per annum, employs 50 people in St Kitts, and is working on a satellite link-up with Jamaica. The country was also the site of the Grenada data entry company (Key Universal Ltd) during the revolution in Grenada (3-4 years). In addition, Robustelli Corporate Services Ltd., a U.S. corporation, has a data entry operation in Nevis, called Nevis Offshore Data Co. Although the company has the components to be operative, it is not currently active, and is therefore interested in attracting possible data entry contracts.

## ST LUCIA

Population: 134,000 (1984)

Language(s): English speaking

Area: 238 square miles

Geographic Proximity to US: Windward island between Martinique and St. Vincent.

Growth Rate: 4.9% (1983-85 average)

Political/Economic Stability: Economy is in transition, expanding steadily in manufacturing, tourism, and various agricultural crops. Politically stable.

Literacy Rate: 90%

Labor Force: 52,198 (1984); large supply of unskilled and semi-skilled labor; lacking in technical and managerial manpower, but St. Lucians are well educated and adapt easily to learning new skills.

Labor Wages: Wage rates for unskilled and semi-skilled laborers range from US $0.40-70 p/hour. Benefits = approx. 20% of wage cost.

Labor Relations: There are five unions in St. Lucia which compete with each other for membership. Only 2 of the 25 manufacturing companies are unionized (1986).

Infrastructure: Decent infrastructure - no railroads, reasonable highways, one major and 4 minor ports, numerous shiplines, one international and one domestic airport servicing 6 airlines.

Communication Linkages: Automatic telephone service provided by Cable and Wireless (West Indies) Ltd; new digital telephone system offers direct dialing to most parts of the world; complete microwave radio-telephone, cable, telegraph, telex and telefax services; TV and radio stations.

Investment Incentives: Govt promoting investment in several manufacturing/assembly areas, including data entry services, under the Fiscal Incentives Act; several industrial parks and free trade zones; repatriation of profits, import duty exemptions, tax holidays; CBI, USAID, OPIC assistance.

Existing Data Entry Operations: DataKey Universal Ltd., a St. Lucian company, operating mainly at the type setting level, employs 15-60 people. Recently, GTE was awarded US $3.7 million contract to erect a fully digital earth station in St. Lucia, which will provide direct links to the international satellite system (INTELSAT). Work to be completed by April 1988.

Caribbean Institute of Computor Technology is a company in St. Lucia which offers computor courses. Institute for Self-Improvement Systems (ISIS) is a new computor school in St. Lucia.

**EXHIBIT 2**

LIST OF U.S. COMPANIES WITH DATA ENTRY OPERATIONS IN THE CARIBBEAN

1) Mark W. Rovenstine
Vice President, Sales
AMR Caribbean Data Services
P.O. Box 619285
MD1343
Dallas/Fort Worth Airport
TX 75261-9285
(817)-570-6911

Cosmo Armstrong
General Manager
Caribbean Data Services
Harbour Road
St. Michael, Barbados
(809)-429-8840

Caribbean Data Services
Zona Franca San Isidro
Santo Domingo
Dominican Republic

Contact person:
Mark W. Rovenstine
(817)-570-6911

2) James Ratcliff
International Operations
R.R. Donnelley & Sons Co.
2233 S. Martin Luther King Jr Dr.
Chicago, IL 60616
(312)-326-8000

Richard A. Berwanger
Resident Manager
Donnelley Caribbean Graphics, Inc.
Wildey Industrial Park
Building 4
St. Michael, Barbados WI
(809)-436-8910

3) Stephen McDaniel
Manager
Southwest Data Base Co.
P.O. Box 3709
Longview, TX 75606
(214)-236-4067

Maxine Hinds
Manager
International Data Services
St. George Street
Bridgetown, Barbados WI
(809)-427-1867

4) Philip Karben
President
P. Karben Corporation
6 East 45th St. #201
New York, NY 10017
(212)-697-1045

Michael Corbin
Manger
Offshore Keyboarding Corp
Boarded Hall
St. George, Barbados WI
(809)-437-4950

5) Carl Nurse
President
Carmik, Inc.
1688 Utica Avenue
Brooklyn, NY 11234
(718)-259-2707

Ruth Campbell
General Manager
C.S.P. Systems
P.O. Box 46W
Christ Church, Barbados
(809)-435-6090

6) Alan Kaufman
Vice President
New American Library
1633 Broadway
New York, NY 10019
(212)-397-8088

Cecil Waithe
General Manager
N.A.L. Data Services
Wildey Industrial Park
St. Michael, Barbados WI
(809)-429-7250

7) Bruce Cowe
Exec. Vice President
National Time Sharing &
Data Services Inc.
1342 Military Road
P.O. Box 70
Niagara Falls, NY 14304
(716)-297-0553

John Williams
Business Dev. Officer
Barbados External
Communications
Wildey Industrial Park
St. Michael Barbados WI
(809)-427-5200

8) Michael C. Harrington
Service Representative
C.F.L. Limited/P.F.C.
P.O. Box 669
Clinton, Iowa 52732
(319)-243-0100

Chester Swanson
Managing Director
C.F.L. Limited
Freeport Commercial
Centre - Unit A
Montego Bay, Jamaica
(809) 952-0565

9) Lawrence J. Bresnahan, Jr.
Managing Director
Advanced Automation
Associates
204 Andover Street
Andover, MA 01810
(617)-729-3842

Janet Rose
Secretary of Corporation
Advanced Automation Ltd.
Montego Bay Export Free
Zone
Montego Bay, Jamaica

10) Lance Geller
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11) Kenneth R. James
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13) G. Maurice DuFour
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3204 Monroe Street
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Sub-contractual arrangement with Telemar in Kingston, Jamaica

14) Gilbert Morgan
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Gilbert Morgan
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15) John Muri
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John Muri
President
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16) Robert Anderson
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17) S.J. Buccheri
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Joe Perry
First Secretary to the
Premier
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Zetland Plantation
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18) John Schrepfer
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Schiller John-Baptiste
Data Entry Manager
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**EXHIBIT 3**

LIST OF CARIBBEAN DATA ENTRY OPERATIONS WITH NO U.S. PARTNER

**JAMAICA**

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Director
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2) Cliff Thomas
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3) Ken White
Managing Director
Applied Data Systems Ltd.
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4) Paulette Willis
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5) Lennox Robinson
President
Transfer Data Ltd.
1A, Oxford Road
Kingston 5, Jamaica
(809) 92-96369/80

6) Ivan Campbell
Datajam Ltd.
30 Haining Road
Kingston 5, Jamaica
(809) 929-6449/939-3805

7) Wendall Smith
Managing Director
Management Control Systems Ltd.
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(809) 926-4703

8) Owen Cooke
Grace, Kennedy & Company Ltd.
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9) Roderick Heaven
Executive Chairman
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2-4 South Ocean Avenue
Kingston 6, Jamaica
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10) Clinton Barrett
Managing Director
Microlink Data Systems Ltd.
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(809) 962-1798

11) David Crottman
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9C Eureka Crescent
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(809)-929-8125

12) Danville Davidson
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13) Alvin Chapman
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14) Richard Donaldson
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15) Owen Cooke
Managing Direcotr
WTG Data Services Ltd.
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16) Yvonne Wright
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17) Roy Shaw
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18) Brenda Francis
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(809) 929-2797

19) Audrey Chin
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(809) 929-2244

20) Earle Watson
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21) Karl Kennedy
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22) Donald Forrester
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23) Dudley Barrett
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24) Joanne Watt
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25) Anthony Robinson
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## BARBADOS

26) Jeane Alleyne
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27) International Demographics Ltd.
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Garrison, St. Michael
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28) Raphael Cave
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(809)-429-6176

29) Keith Morris
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Management Consultants
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## ARUBA

30) Francis Lacle
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31) Johan Vrieswijk
Systems Engineer
Minihouse
cdp/Minihouse
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32) J.M. Veel
Managing Director
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Oranjestad, Aruba

ST. LUCIA

33) John Dawson
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DOMINICAN REPUBLIC

34) Rodolfo Breve
President
Computer Techniques
Santo Domingo, Dominican Republic

ANTIGUA & BARBUDA

35) Joseph Benjamin
President
Benjies Business Center
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Antigua & Barbuda

**EL SALVADOR**

36) Luis Mora
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Prodata
Avenida las Magnolias
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(503)-245-544

**EXHIBIT 4**

SAMPLE LETTER SENT TO SERVICE BUREAUS

December 4, 1987

_____
_____
_____
_____
_____

Dear _____:

I am writing in regards to a project that Arthur Young has undertaken on behalf of the U.S. Agency for International Development (USAID) concerning offshore data entry in the Caribbean.

As you may be aware, offshore data entry has become an attractive and viable alternative for U.S. companies and organizations which produce high levels of information that must be entered systematically onto machine readable format. Data which is not extremely time sensitive can be transported and entered offshore at considerably lower costs to the U.S. companies, while maintaining high quality and reliability. With the advent of faster and less expensive telecommunication capabilities (i.e., teleports, telecopiers), the offshore alternative will become increasingly appealing.

Due to the proximity of the Caribbean Basin countries to the U.S. and the availability of labor at low costs, this region has become a center for offshore computer data entry for U.S. companies. Most countries in the Caribbean Basin have large pools of educated young workers which can be tapped to perform data entry duties. Currently, over 3,500 Caribbean workers are employed in Information Age jobs, such as computerizing U.S. telephone maps, typesetting manuscripts, and keypunching data from credit card slips, application forms and other raw data onto diskettes or other machine readable format. Turn around time for data entry operations is as low as three days in several Caribbean countries.

In an effort to promote private business development under the Caribbean Basin Initiative, USAID is in the process of identifying U.S. companies and service bureaus with large data

entry needs that have considered establishing relationships with/setting up data entry operations in the Caribbean. USAID is convinced that offshore data entry offers mutually advantageous opportunities to both U.S. companies and the concerned Caribbean countries. The Private Enterprise Bureau of USAID, as well as the USAID Missions in the region, are prepared to assist U.S. companies and service bureaus in exploring such offshore operations by identifying local contacts/partners and providing further information about the business environment in those countries.

As your company is in the business of data entry and processing, I would be interested in your views regarding offshore data operations. If you are interested in further exploring offshore opportunities available to your company and the assistance USAID can offer, please write or call my assistant, Ms. Megan Christoph @ (202)-956-6186.

Thank you for your consideration,

Dr. Mima S. Nedelcovych

**EXHIBIT 5**

SERVICE BUREAU QUESTIONNAIRE

1. DOES YOUR COMPANY CURRENTLY OWN OR OPERATE ANY OFFSHORE DATA ENTRY FACILITIES? IF YES, WHERE, NAME OF OPERATION AND NUMBER OF OPERATORS.

2. DOES YOUR COMPANY HAVE ANY SUB-CONTRACTING ARRANGEMENTS WITH ANY OFFSHORE DATA ENTRY OPERATION? IF YES, WITH WHOM?

3. WOULD YOUR COMPANY BE INTERESTED IN EXPLORING EITHER A CONTRACTUAL ARRANGEMENT OR A EQUITY POSITION WITH AN EXISTING DATA ENTRY OPERATION IN THE CARIBBEAN?

**EXHIBIT 6**

SERVICE BUREAUS WHICH WANT TO BE CONTACTED FOR FURTHER INFORMATION REGARDING OFFSHORE DATA ENTRY OPPORTUNITIES IN THE CARIBBEAN

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Vice President
Abington Keypunch, Inc.
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Walter Vukas
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R. Fuentes
President
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Andy Techmyer
General Manager
Ronald R. Curcio Entreprises, Inc.
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Marietta Boozer
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Rita Miller
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Allan Zaruba
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James L. Dean
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Key Entry Service Co.
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Roger Strauman
Vice President, Marketing
National Business Systems
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Carleton L. Smith
President
Robith Corporation
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Vicki Almquist
Account Executive
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Thomas Cook
President
3 PM
30881 Schoolcraft
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(313)-523-9603

Robert O. Beach
President
S.A.I.D., Inc.
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Sam Lazich
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William Kast
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## SOURCES


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