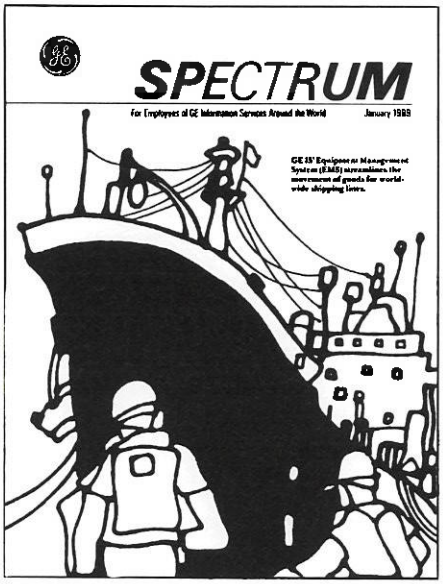
SPECTRUM

For Employees of GE Information Services Around the World

January 1989

GE IS' Equipment Management System (EMS) streamlines the movement of goods for world-wide shipping lines.



About the cover

GE Information Services has developed an Equipment Management System that will provide great efficiency to shipping lines with worldwide operations. The system automates equipment tracking, contract maintenance, billing, maintenance and repair, and forecasting. EMS has been successfully implemented for GEM, a consortium of Scandinavian shipowners, and is being marketed to other shipping lines.

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GE Information Services

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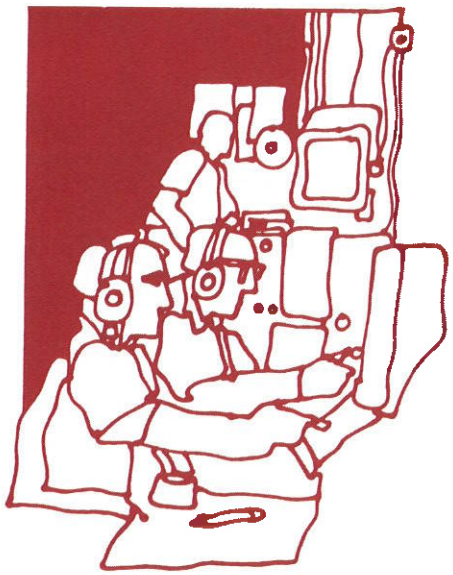


A GEM Of A System

The Equipment Management System (EMS) is live and working for GEM

In the fiercely competitive international shipping industry, shipping lines that hope to survive need to use their resources as efficiently as possible and reduce operations costs wherever they can while at the same time improve service to their clients.

To meet this objective, a consortium of Scandinavian shipowners, who run 14 shipping lines and control more than 100,000 containers, founded Global Equipment Management (GEM). The jointly owned company operates an integrated container pool that incorporates the separate container fleets of the GEM lines. The pool allows the partners to decrease the number of containers operated and increase the utilization rate for each container, thereby saving an estimated $40 million per year.

The first organization of its kind set up in the world, GEM has significance to the whole shipping industry. Similarly, the Equipment Management System (EMS), which GE Information Services initially developed for GEM, has significance for all clients and prospects who operate containers.

GEM had been using GE Information Services' MARK III-based Equipment Control System (ECS), which GE IS modified for GEM's use in 1986, as an interim solution to its container tracking needs. The versatile new system gives GEM competitive advantage in the world shipping market and gives GE IS significant marketing advantage in this important industry sector. While EMS was developed initially for GEM, it was designed as a generic system to which GE Information Services retains the marketing rights.

The successful development of EMS has significance even outside the shipping industry. It has shown that GE Information Services can provide large, sophisticated worldwide systems for clients who need the advanced data base and transaction processing facilities provided by MARK 3000-based solutions.

The Development Team

Development of EMS was undertaken by GE IS in close cooperation with GEM. Under the leadership of Hans Sundin, formerly Operations Manager responsible for equipment control, GEM brought together a team with wide experience in the shipping industry to support the development effort. On its side, GE IS established an International Development Centre in Kingston-upon-Thames in England with a staff devoted to addressing the complex requirements of the MARK 3000-based system. (See The EMS Development Team.)

During the development cycle, as GEM gained greater experience in running its business, a number of rethinks and changes to the application occurred. Today the system is twice the size of what was anticipated at the start of the requirements study.

"GEM and GE Information Services worked as a good team as we defined the requirements of the system," says Hans Sundin. Henning

Thorndahl, Deputy Managing Director of GEM adds, "As we worked on this project, we met GE IS people who understood *our* business as well as their own and who took pride in their ability to install and look after systems with end users scattered around the world."

The International Development Centre is always a hub of activity.

How EMS Works

The Equipment Management System represents a major, integrated application development designed to provide shipping lines with the information services they need to compete in a constantly changing world market. EMS is a modular system that will comprise subsystems that automate equipment tracking, contract maintenance, billing, maintenance and repair, and forecasting and optimization. The modules are designed for use either independently or as a fully integrated system.

Equipment Tracking

Complete and up-to-date knowledge of fleet and equipment status is essential for modern container transport management. EMS provides comprehensive screen inquiry and report facilities that enable logistics departments to stay fully abreast of equipment disposition, inter-port movements, inland activity, and interchange histories.

Among the capabilities that make the Equipment Tracking module of EMS superior to other tracking systems are client controlled determination of the way users can enter and view data and sophisticated security features that allow different kinds of users—from independent agents to shipping line head offices—to access the same data base of container information, while ensuring that each user sees only what he is authorized to see.

To assist GEM in cost containment, EMS's Equipment Tracking captures details of the various financial aspects related to the leasing and transport of containers—agreements between lines and leasing companies, depots, and road and rail haulers as well as agreements between member lines within a container pool. In addition, this state-of-the-art tracking system provides a comprehensive set of on-line enquiries and reports containing up-to-the-minute operational status and historical data.

Contract Maintenance

The contractual arrangements under which containers are leased from leasing companies (or within a pool) can be very complex. Not only are the contracts complex, but every one is different. The EMS Contracts subsystem is designed to handle the diversity of contracts used today and is flexible enough to handle those of the future with minimal or no change.

Billing

EMS represents a major advance in the control of cost for equipment and related services. The EMS Billing subsystem processes the history of activities for every container against the appropriate contract to produce invoices both for containers leased by an EMS user (self-billing invoices) and for containers leased out by an EMS user. EMS Billing has flexibility to cope with the complexities of shipping operations and the one-time agreements characteristic of the business.

Maintenance and Repair

Procedures for control of maintenance and repair are key elements in a cost effective operation. EMS is designed to give a logistics department the ability to control maintenance costs.

Damage reports can be entered into the system at any time. Then, as soon as the unit moves to a location with maintenance facilities, it will automatically be assigned to the control of the local inspector. Estimates and authorizations are entered and the progress of the repair is carefully monitored. As a result, self-billing invoices can be produced in accordance with previously authorized estimates when the work has been satisfactorily completed and the unit returned to service.

In addition, the system can be used to analyze repair data to get a picture of recurring damage. This is valuable for taking preventive action.

Bob Prezioso was key in setting up the International Development Centre in March 1986.

Forecasting and Optimization

Effective equipment management depends not only on seeing and understanding the global picture at any given time but also on having an accurate assessment of ways the picture is likely to change. Current techniques often force managers to make assessments of future equipment imbalances based on minimal information. The Forecasting module planned for EMS would allow a user to integrate current and projected equipment availability, booking forecasts, and historical patterns based on seasonal demand to get a realistic forecast of future imbalances.

In addition, a complementary Optimization module would allow the user to take the process a step farther by analyzing least cost solutions for dealing with forecast imbalances.

EMS Goes Live

Implementation of EMS for GEM's 14 shipping lines and about 200 locations that will be accessing the system worldwide will be a phased effort over the next twelve months. Equipment Tracking, Con-

The EMS Development Team

The Equipment Management System developed for GEM is one of the largest MARK 3000-based applications developed by GE Information Services. The effort began in January of 1986 when the International Development Centre (IDC) was set up in Kingston-upon-Thames in England to address the complex requirements of the system.

During the early phase of development, Alec Absalom led a team charged with identifying and documenting the requirements of EMS, while Bob Prezioso put together the technical development team. In early 1987, when the role of the IDC was expanded to support other MARK 3000-based applications, Bob began to concentrate on wider IDC management concerns and Robin Dent took on responsibility for the development of EMS.

Even at the outset, EMS was a large system by GE IS standards. Therefore, key members of the team were assigned responsibility for developing the various modules of EMS: Equipment Tracking, Robin Dent; Contract Maintenance, Colin Slight; Billing, Andy Whitfield; Maintenance and Repair and outline design for Forecasting and Optimization, Keith Turner. The project also relied heavily on contractor programmers to meet varying demands. At the peak of the development, as many as 30 contract designers and programmers worked on EMS.

The approach proposed for the Optimization module proved to be particularly challenging. Optimization involves a great number of variables, many of which are not linear and have a significant level of uncertainty. The IDC team decided that a mathematical approach to this problem might not be feasible, so a prototype Expert System solution was produced. This approach takes the knowledge and decision making process of a shipping expert and mirrors them in a computer system. The prototype was received with enthusiasm by GEM. Development of the real system is planned for 1989/90.

All development was done from Kingston, where programmers accessed MARK 3000 using 3270 or equivalent terminals. Since as many as 50 people relied on the facilities, John Samuel's Technical Support team assumed responsibility for ensuring their availability. Dave Morgan and Alan Lee provided essential software and communications support. All three served as critical links between the UK development team and the MARK 3000 engineering group in Rockville.

Like most IBM-based systems, data bases are at the center of EMS. The data bases must provide flexible and efficient access to meet the requirements of different parts of the system. Their design requires specialist knowledge not usually available within development teams. To fill this need, Bob Beveridge set up a skilled data base group to service both the EMS development team and the Technical Support and Operations groups.

The UK account management team, Ann Hill and Colin Willes, worked alongside the development team and GEM. Without this very close liaison, the complexity of the commercial relationship between GE Information Services and GEM could have presented a significant problem.

Complexity was not limited to development. This interactive system with users worldwide will require round-the-clock support. John Samuel's Operations group, which runs the MARK 3000 systems for Transtema and Unilever, now provides operational support for EMS as well.

Training end users will be an ongoing process. This process began last August when Barry Jones, GE IS, and Joan McArthur from East Asiatic Company (EAC), the first scheduled user of EMS, travelled both sides of the Pacific giving training courses to shipping lines personnel and shipping agents who would be using the system.

Finally, client services procedures, agreed to by GEM, were instituted to provide full operational support for problems related to the network, delivery system, daily operations, and application support.

"I have worked on the development of systems as large and complex as EMS," says Robin Dent. "However, GEM was a complex environment requiring many interfaces with other groups to address all the detailed technical considerations. EMS would not have happened without tremendous team work—not just from the development team, not just from the various groups from within the IDC, but, just as important, from the many parts of GE Information Services (in particular the UK Account Management team and UK Client Services) and from the client and the lines.

"While EMS is installed and working for GEM, the development of remaining subsystems is still to be completed. In addition, despite the in-built flexibility and scope of EMS, there will be need for changes and further enhancements for GEM as well as for other clients as the marketing of EMS moves forward.

"We have certainly had many challenges to address and we have learnt many lessons which will be valuable to all of us and to GE Information Services in the future. We can all feel proud of this very special achievement as we move forward to the challenges ahead."

THE EMS SOFTWARE

Programming Language—COBOL
TP Monitor—CICS
Database software—DLI

EMS PRESENT SIZE

200 different screens (plus corresponding batch/telex facilities)
55 printed reports
35 databases
850 programs
700,000 lines of executable code

tracts, and Billing are the first modules to be implemented. Maintenance and Repair will follow in early 1989.

During the changeover period, lines not directly on EMS will report movements to MARK III as they did to ECS. MARK III will then pass the data to MARK 3000 for processing on EMS.

In August of 1988, GEM headquarters in London went live on EMS, entering the vital system data, setting up the contracts data, and transferring ECS data from MARK III to EMS on MARK 3000.

In late September, the first lines went live. TransPacific Service (TPS) and PNSL, both part of the East Asiatic Co (EAC) group, headquartered in Pasadena, California, with routes and agents around the Pacific, stopped entering equipment tracking data into their existing systems. During the course of a week, all outstanding data was processed and corrected on ECS and then transferred to EMS. The following Monday, the agents started using EMS on line by entering their backlog of data.

Early in December, the third line, Johnson Scanstar, went live very smoothly.

The Challenges Ahead

Early implementations of EMS have gone smoothly, but the challenges that lie ahead remain great. As the implementation team continues to move shipping lines from ECS to EMS, new users must be trained on the system. At the same time, the remaining subsystems must be implemented. And even when this task is complete, the project is not over. As GEM gains experience in using the new system it is likely that enhancements to EMS will be identified.

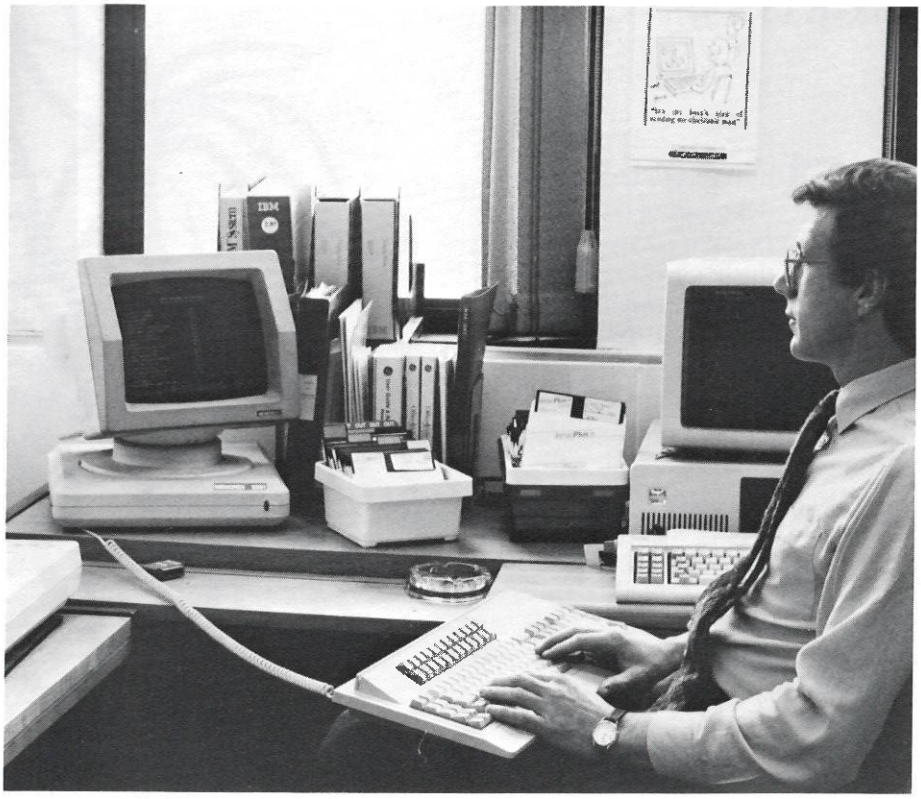
As the work with GEM moves forward, marketing EMS to other prospective users is well under way. "EMS is planned to be a significant

"I truly believe that within GE Information Services, the Equipment Management System sets the standard and is an excellent example of what both field marketing and niche/verticalisation strategies are all about."

Danny Schultz

revenue earner for GE Information Services," says Alec Absalom, who now works in Trade & Transportation marketing EMS. "The challenge for GE IS people everywhere now is to go to the shipping companies in their countries and turn our success with GEM into a personal success with EMS. We are ready to help." Presentations of EMS have been made in 11 countries and the reception has been good. One Operations Manager said that he has seen many systems but none better than EMS.

"I truly believe that within GE Information Services, the Equipment Management System sets the standard and is an excellent example of what both field marketing and niche/verticalisation strategies are all about," says Danny Schultz. "To find a dedicated market segment and have the courage and tenacity to stick to your vision is the key to success. I encourage others to follow this example within their own organisations and get the sponsorship of their management. This will inevitably lead to us all being successful.

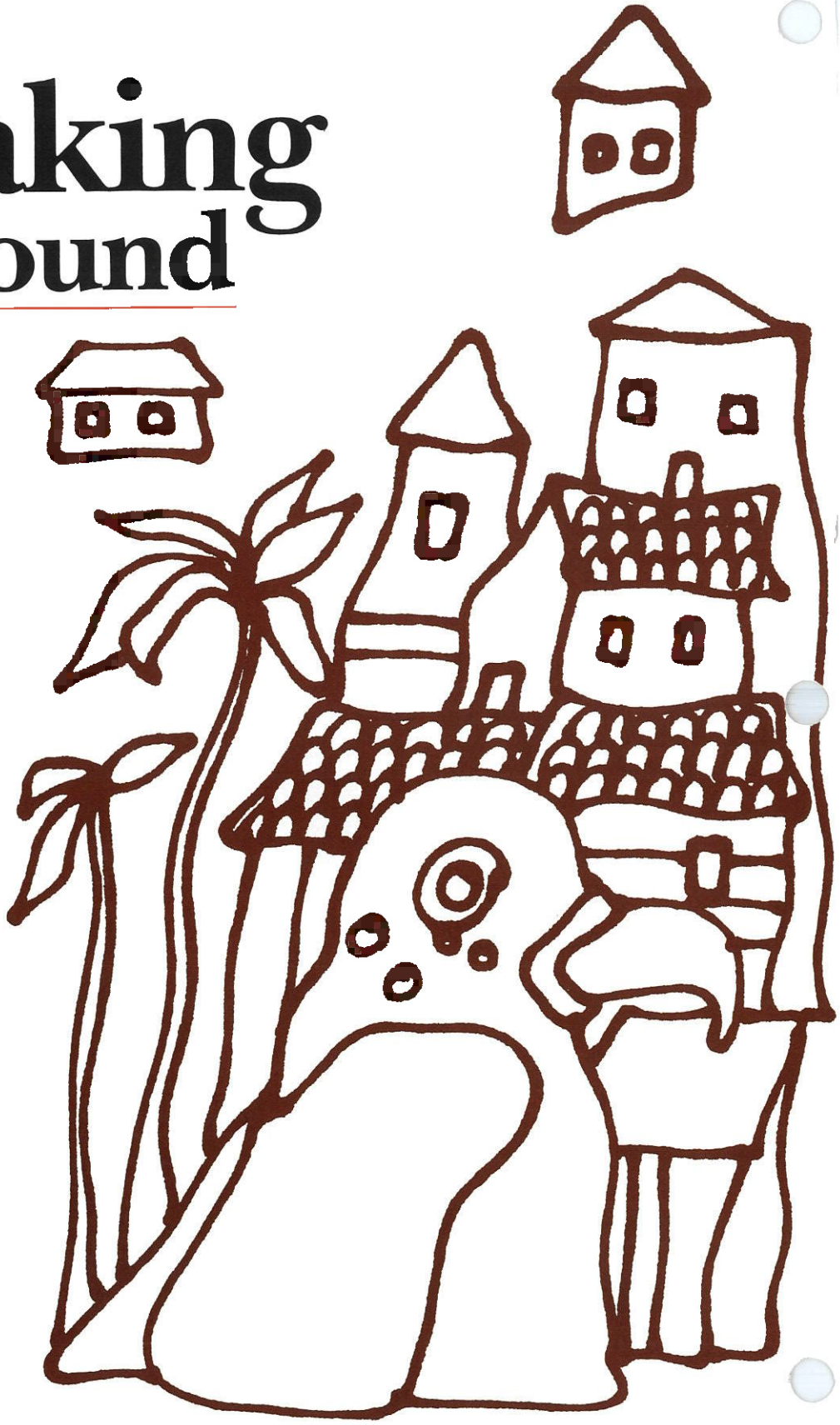


Top, Key members of the EMS development team confer about the project. From left to right: Robin Dent, International Project Coordinator, IDC; Frode Eidem, Senior Consultant, Norway; Bob Prezioso, formerly IDC Manager; Kate David, IDC Administrator; and Colin Slight, Information Technology Consultant, IDC.

Above, Robin Dent, International Project Coordinator, IDC, at work on the project.

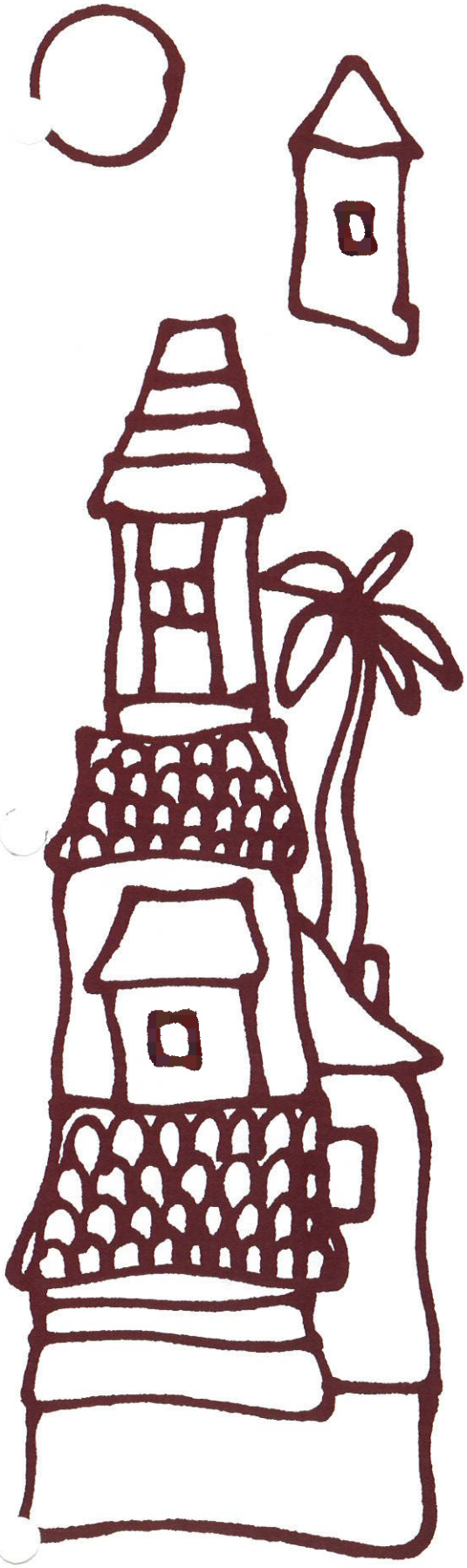
Breaking New Ground

Proceda, GE Information Services' Distributor In Brazil, Opens The Latin American Market To GE IS



Though still termed a developing country, Brazil is today one of the leading export countries in the world, belonging to an exclusive club of some 12 countries with export revenue of over $30 billion a year. Careful restrictive management of the economy—limiting imports and accelerating exports—has yielded a trade surplus of $18 billion, second only to that of Japan and West Germany. To stimulate domestic growth, required to service its enormous national debt, the Brazilian government exercises very tight control over import goods and services.

There are increasing signals that Brazil may be reviewing and creating new arrangements in its telecommunications and informatics sectors. Brazil has pushed in recent years to upgrade and expand telecommunications, a move that has dramatized the increasing gap between the supply of services available to Brazilian companies and what is required to be competitive in today's market. A first step toward correcting this discrepancy—



and thereby encouraging foreign investment—has been administrative adjustments to the formidable market restrictions employed to protect Brazilian industry. A recently enacted law governing software copyrights and marketing rules and a change in the interpretation of investment policy in certain areas have contributed to the warming trend.

During the last year, the value-added services market began to move. As restrictions began to ease, the interest of US companies heightened. Although restrictions in the two sectors still present a considerable barrier, prospects for flexibility have never looked better. GE Information Services is well positioned to take advantage of these opportunities.

Forming An Alliance

In May 1987, GE Information Services entered into an agreement with Proceda, the informatics and telecommunications component of the Santista group, making Proceda the distributor of GE IS services in Brazil. The interim agreement was contingent upon Proceda obtaining all the government approvals required before a full distribution agreement could be signed. This process—which consumed nearly 18 months—was finally completed in the fall of 1988. On October 1, Proceda became the first company granted permission by the government to offer foreign-based information services in Brazil.

Proceda is a multifaceted company involved in computer equipment manufacturing and sales, data processing services, and network services. Its internal network is one of the largest commercially available networks in Brazil, with access to facilities throughout Brazil, a country as large as the continental United States. Its service facilities approximate the size of our MARK 3000 service. In addition, Proceda has a more sophisticated marketing approach than most of its counterparts in Brazil.

Because Proceda is the informatics branch of one of the largest companies in Brazil, Moinho Santista Industrias Gerais, it has strong financial backing that ensures its stability. Moreover, Santista has diversified into a number of other businesses, including textiles, chemicals, food, and insurance, and is a high potential client for GE IS services. In fact, Santista already has several applications running on our network.

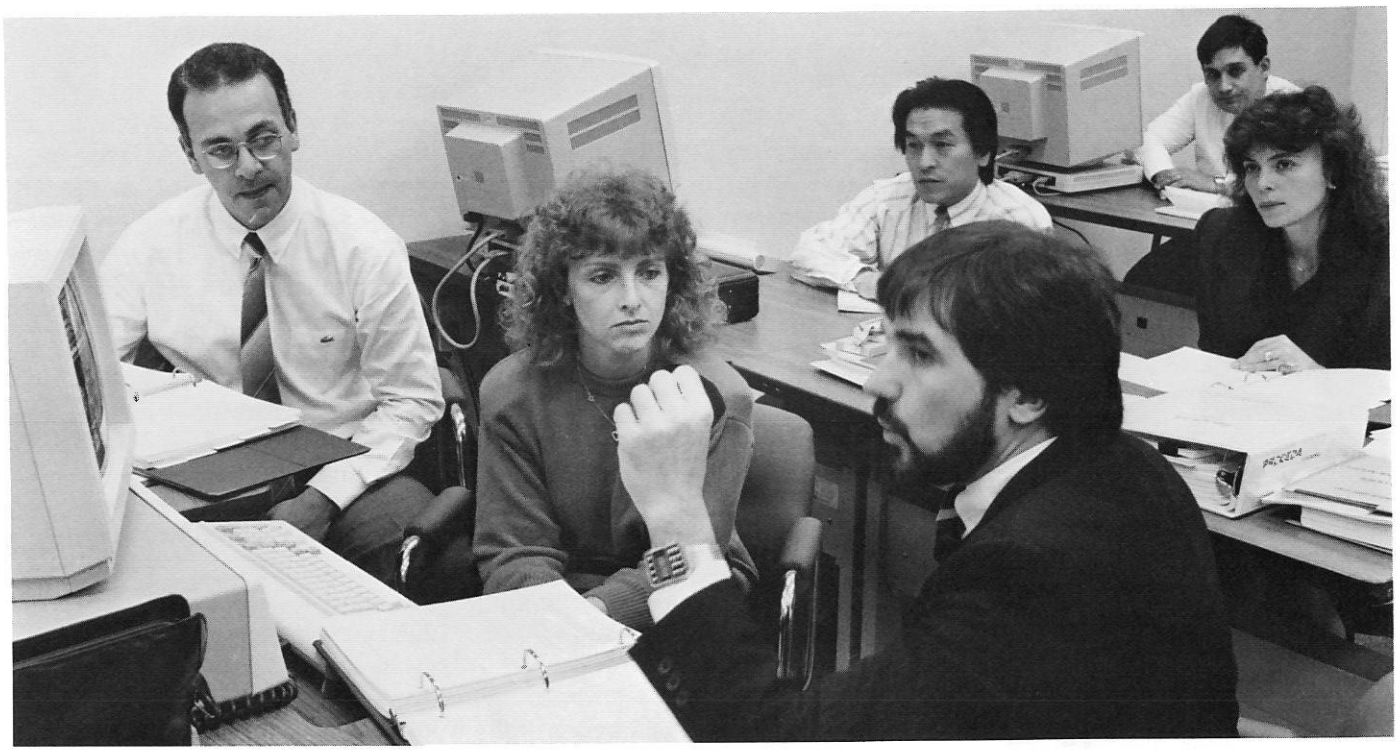
From the outset, GE Information Services has provided strong support to Proceda in terms of business development, training, and establishment of distributor operations. As project manager, Brazil Operations, Willie Niezen has spent most of the past two years working with Proceda to establish itself as a GE IS distributor and to procure the required authorizations from the Brazilian government.

"Proceda's current level of commitment and positioning in the Brazilian market are closely related to GE Information Services' investment and dedication of resources to the project," says Willie.

In his new position as manager, South America, in Paul Inserra's National Accounts and Distributors group, Willie, who is based in Sao Paulo, will continue to provide support to Proceda as well as identifying new opportunities in Latin America.

Laying The Foundation

In accordance with the terms of the interim agreement, Proceda has been supporting GE IS' local installed base of clients since July of



1987. When GE IS began working with Proceda, we had 17 clients in Brazil, who were supported by Global Support Services in Rockville. These clients are subsidiaries of international clients who want a base of operation in Brazil. Since our agreement with Proceda, that number has grown to 112 clients.

When GE Information Services gets a request from a client who wants to install a subsidiary in Brazil, Proceda handles the entire government approval process, which must be attained individually for each client. Proceda also recommends the appropriate hardware for operation in Brazil, and when everything is in place, installs the client on our network. Proceda also provides training on accessing MARK III and, where required, Brazil's Public Data Network.

With the signing of the distributor agreement in October, Proceda has now begun a full marketing effort to sell GE IS services in Brazil. They are talking with Petrobras, the largest company in Brazil, with Banco do Brasil, and with several companies within the Santista group.

Top, Key Proceda people spent three weeks in Rockville being thoroughly briefed on our products and services. In the foreground is Nick DuBois, Senior Training Specialist, GE IS, giving the Proceda team hands-on experience with MARK III Service. Members of the Proceda management team (from left to right): Dalton Mendes Cortucci, Technical Support, Iara Teixeira Pires, Network Software, Reisaburo Takeda, Network Services, and George Zelenjunk and Tania Christina Biagi, Account Managers.

Above, John Sidgmore, vice president, North American Sales & Services, presents a gift to Iara Teixeira Pires (left), expressing his enthusiasm about our new distributor relationship that expands GE IS' presence in the Latin American market. Tania Biagi (center) looks on.

Top, Reisaburo Takeda, Network Services Manager, Proceda, and Willie Niezen, Manager, South America, GE IS, discussing future marketing plans for Proceda.

Above, John Sidgmore welcomes Proceda to the GE IS sales team.

Proceda has also been talking with the PTT about possible joint applications.

Key Market Opportunities

Proceda sees several major industries as key market opportunities in Brazil: banking, trade & transportation, and automotive—industries that GE IS has identified as focus industries as well.

In banking, because of government regulations that restrict all but Banco do Brasil from international operations, opportunity is largely limited to domestic applications between banks within the country. In trade & transportation, because of Brazil's government-backed emphasis on exportation, opportunities look very promising. In the automotive industry, Sao Paulo is the second largest automobile manufacturing city in the world. Volkswagen, Ford, and General Motors all have large plants in Sao Paulo. Ford and Volkswagen have a joint venture company called Auto Latina, which is now the eighth largest automotive business in the world. Brazil also manufactures parts for US, European, and Japanese manufacturers. Opportunities for worldwide dealer systems are rife.

Brazil's ambitious goals in terms of the volume of exportation it hopes to reach over the next several years creates a climate right for selling network based services that can make its international operations more efficient and cost-effective. Proceda sees its distributor agreement with GE IS as giving it the leverage it needs to be competitive in this market.

"We foresee that networking services will be very important in Brazil in the near future," says Reisaburo Takeda, network services manager for Proceda. "Our alliance with GE Information Services offers us great opportunity to bring higher quality services and greater technical expertise to serve this market."

Teamwork Makes The Difference

Implementing a client worldwide takes close coordination among people throughout the business

Implementing a client application on a worldwide basis requires global teamwork. It takes careful planning and close coordination among people throughout the company who provide local support. With the worldwide deployment of AppleLink, the original BusinessTalk system, and soon Microsoft's OnLine system, GE Information Services is putting together effective global teams to support clients' needs.

GE Information Services has worked with Apple since 1984 when the visionary young computer company selected GE IS to develop an electronic system that would enable it to communicate with its 2,000 US dealers and later with its dealers worldwide. Today, this dynamic California-based client is the largest user of QUIK-COMM, with 22,000 addresses in its system.

The original system was jointly written by Apple and GE IS. Apple developed the MAC front-end and GE IS the AppleLink MARK III server, which integrates QUIK-COMM, Bulletin Boards, Alerts, and AIRS data bases into a user friendly system. The commercialization of AppleLink as BusinessTalk came in 1986, after which GE IS developed the IBM PC front-end software.

Since 1986, Apple has used the commercial version of BusinessTalk, but AppleLink users felt stymied by having to await desired upgrades until they became commercially available. To address this concern, SDC San Francisco developed and will support version 5.0 of AppleLink as an Apple only system. The commercial BusinessTalk 5.0 server being released is a different server, which will be supported by Rockville.

"Apple's dramatic growth and operating style has created an 'Apple Federation' of companies that do business with the computer maker," says David Page, manager, High Tech. "The companies are challenged to anticipate and satisfy

Key people who are making the worldwide implementation of Apple work: standing from left to right, Colin Bonn and Marcia Jacobs, SDC, San Francisco; Zeput Blot, Apple Europe; Debbie Lucia, Sandra McKinley and Elaine Sweeney, Apple Cupertino; seated, Han Brants, Client Services International; and Linda Donovan, Apple Cupertino.

Apple's unstated requirements far in advance of the need. Our determination to be a successful member of the Federation, be adopted as an 'Apple Systems Partner,' and use this demanding client as a catalyst for our innovative thinking and creativity has caused us to pull out all the stops in service and responsiveness. We'll be a better vendor to Apple and a better service company as a result."

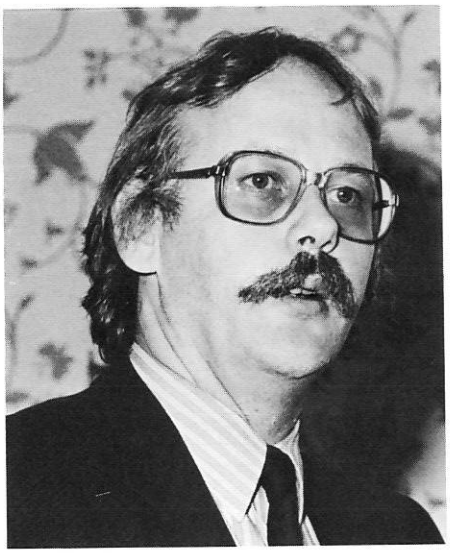
Taking The System Worldwide

Two years ago, Apple and GE Information Services started the process of deploying AppleLink to Apple's worldwide sites, primarily in Europe. This required identifying the people within each Apple site who would support the system, deploying the software, and coordinating the effort to get all Apple end users up and running.

"Europe is a very diverse environment in which to work. Almost everywhere there are different modems," says Colin Bonn, senior consulting specialist, San Francisco, who is coordinating the worldwide deployment of AppleLink. "The Public Data Networks (PDNs), owned and operated by each country's telephone company, differ from site to site, with some countries even mandating what modem can be used. Charges for PDN services are handled in a wide variety of ways, from the end user paying and having to get signed up to GE IS paying and having to be sure to cover this real cost in the system charges—or face a loss of margin!"

For the past two years, Client Service desks and technical representatives at the various sites have worked with Clients Services International (CSI) in Amsterdam to support implementation of AppleLink. Country by country, GE IS people have brought their knowledge of local access to this ongoing effort to implement greater numbers of Apple users. As a result, non-US usage has grown to be 10 percent of Apple's total users.

In each country to be implemented, it is important to create the correct CCL file—the dialog file that establishes the interaction from the computer to the PDN and/or GE IS network. This is critical for a correct sign-on to AppleLink. The use of PADs (Packet Assembly/Disassembly, a method of using one telephone line for multiple simultaneous sessions) or direct dial through a modem also affects the way in which the CCL must be written to achieve a connection.



Fried Schoorl explains how Client Services supports Apple.

A Coordinated Effort

In 1987, GE IS held a three-day open session in Amsterdam to expedite the implementation. During that time, users came to CSI with their configuration details and GE IS people created the CCL, tested it, and sent the user home ready to implement and use the system. As a final step in the implementation process, representatives of Apple and GE IS met in Amsterdam in September 1988 to address outstanding implementation issues and to agree upon their respective support roles.

From the beginning it was clear that both GE IS and Apple people took this meeting very seriously and were making every effort to get someone from each of their sites to attend the meeting. In the end, 42 people, representing 12 European countries, Canada, and the US, attended the meeting.

"Establishing a good working relationship between Apple and GE IS was the fundamental purpose of the meeting," says Han Brants, manager, CSI, who hosted the event. "I think we succeeded in doing this, since we have encountered few problems since then. The meeting also underlined the need for international coordination when implementing major accounts."

On the first day, the group convened for a detailed look at the capabilities of the GE IS network and the organization that supports Apple. Han Brants and Fried Schoorl, CSI consultant, discussed the GE IS support structure. Roger Dyer, manager, European Operations, demonstrated our network capabilities. Saundra McKinley, Apple Manager of Information, addressed the use and maintenance of Bulletin Boards.

The second day's agenda focused on ways in which Apple and GE IS will work together to support Apple end users. It was agreed that Apple administrators will be the interface to end users and will deal with all problems related to information within AppleLink. They alone will contact the local GE IS technical representative or client service desk if a problem appears to be communications related. These GE IS people have CSI to assist them if needed. In turn, CSI has Client Services in Rockville should the problem require additional assistance. For problems relating to the MARK III software or front-end, the Apple administrator will contact Apple in Cupertino, California, which has SDC San Francisco to assist in problem resolution.

Outside the meetings, a wide range of issues were discussed. Germany is interested in the creation and control of local language data bases for its end users. Germany and Austria would like to share Bulletin Boards containing data of local interest that will also be local language and available only to those two countries. Both Spain and Austria have major clients who would like a BusinessTalk system to exchange data with the local Apple group as well as for exchanging proprietary information within the company. These opportunities were passed along to sales people in the respective countries.

Those attending found the meeting so beneficial that Apple and GE IS agreed to hold similar meetings each quarter. The next meeting is scheduled for February 1989 in Hong Kong to coordinate implementation in Asia Pacific.

Learning From Experience

Following the two day joint meeting, GE IS people met for their own progress review. The local GE IS people emphasized that being involved early in the planning for major international accounts is critical to providing good support. They also expressed some concern about being committed to levels of support that they may not have the technical expertise and/or equipment to deliver—like trying to support Apple without a Mac! The message was clear: to ensure client satisfaction, check what can be offered country by country before making commitments.

"I hope that all sales people having large, worldwide applications, no matter the origin of the sale, will use the Client Services organization to assist them in the same way as was done for Apple," says Han Brants. "It will improve our ability to serve the client and get a smooth start up."

With Microsoft OnLine scheduled for worldwide implementation during the first half of 1989 and the AppleLink implementation in Asia Pacific, GE IS will have opportunity to heed that advice.

GOODNEWS

Westpac

Westpac is recognized in Asia Pacific countries as a major banking force. GE Information Services' relationship with Westpac has a long history, they being the first users of the Global Limits System (GLS). Since then, GE IS has continued to develop the account and now provides a wide range of services. Like most large banks, Westpac is keen to keep a high profile and has invested heavily in technology.

Six of Australia's major national banks recently established an automated electronic clearing system for the secure and immediate interbank transfer of high value funds. This system, known as the Bank Interchange and Transfer System (BITS), provides for same day clearance of funds from a corporate bank account in member bank A to another corporate account in member bank B.

Corporate customers no longer have to wait for overnight processing to occur in their respective banks to have access to cleared funds. Corporate treasurers in Australia are enthusiastic about BITS, because the one day reduction in the payments cycle has positive impact on their cash flows.

After investing in both the BITS and Cash Management System (CMS), it was logical that Westpac would like to provide an interface between the two money transfer systems. The BITS interface is an entirely new corporate banking service that provides CMS users real time processing and access to funds.

GE Information Services' knowledge of Westpac's Cash Management System and our proven successful track record for full system support made GE IS the preferred supplier.

Westpac's CMS is very advanced, encompassing some unique features that make it quite spectacular. The GE IS team's attention to detail and client focus helped us design an interface that will allow Westpac to continue to be a true leader in its field.

The GE Information Services team worked under tight time pressure to get the project completed within the time frame agreed with Westpac, and in the end, all the praise should go to those in the SDC area for their effort and dedication.

Daniel MacLeod, Australia

TRANSNET

GE Information Services has been offering TRANSNET, our EDI network service in Holland since 1986, when it was selected by the national EAN Numbering Organization, UAC-TRANSCOM, to provide this service.

UAC-TRANSCOM promotes and coordinates the development of the universal EAN product numbering and symbol-marking system (barcode), now broadly used in the general merchandise sector, and particularly within the food industry, in Holland.

Using Trade Data Element Directory (TDED) and Guide for Trade Data Interchange, UAC-TRANSCOM realized the TRANSCOM standard messages, which allow suppliers and wholesalers to automatically exchange orders, invoices, delivery schedules, and other information with their trading partners.

Others competing to be the EDI network provider for UAC-TRANSCOM were the Dutch PTT, which could provide only national coverage, and IBM, which was not really ready for EDI at the time, and Alpha, a small network service bureau owned by a Dutch bank. In the end, Alpha was defeated by a powerful business man not even on the selection committee, who objected to the bank ownership.

After an evaluation period that was both complex ("everybody into the act" decision making) and political, GE IS was chosen as the best infrastructure for providing EDI service. Several important arguments played to our favor: our ability to support a wide variety of computer protocols and speeds, which makes it easy for both large companies and smaller ones to join the service; our extensive knowledge of EDI and our experience in equivalent projects worldwide; and our international network coverage that allows users to exchange messages not only locally in Holland but also with international trading partners.

Trading partners in the food sector were the EDI pioneers on TRANSNET. Big suppliers like Heineken brewery are now able to handle completely electronically the information flow related to the physical movement of beer and soft drink products to their clients. Before EDI was used, Heineken delivered its products to the distribution and storehouse of a big supermarket chain. After implementing EDI within Heineken and the supermarket chain, the supermarkets are now able to send their daily orders electronically, so Heineken can deliver the products directly to each supermarket.

EDI has resulted in shorter order cycles and Just-In-Time delivery; no extra distribution handling from the store to the shops, reduced warehouse storage; and faster movement of goods to market. This translates into cost savings on both sides, resulting in better return on investment.

UAC-TRANSCOM calculates that 40 million guilders (20 million US$) a year can be saved simply by elimination of errors resulting from the rekeying of information required in a manual system.

Today there is a fast growing user population of systems like TRANSNET within GE IS: TRADANET in the UK (INS), ICODIF in Belgium, and SEDAS in Germany. Therefore EAN has formed a working party to give an international dimension to the work. This group agreed unanimously that there is need to use a common interface between the national systems and that interface should be based on EDIFACT standards to enable international traffic.

The Dutch organization UAC-TRANSCOM is already working on this and is also looking at standardization of messages to effect electronic payments to banks. Perhaps this will result in the ability for the retail industry to offer

payment services such as debit and credit cards through Electronic Funds Transfer.

Carien van der Laan, Bert Meerman, and Philip de Roos deserve credit for the sale of this important EDI project. Guus van den Hoogen and Philip de Roos are responsible for implementation and project management.

Philip de Roos, the Netherlands

Societe Generale de Surveillance (SGS), Switzerland

Societe Generale de Surveillance (SGS) is the world's largest control and inspection organization, offering quantity and quality checks and related technical services in such areas as agricultural products, minerals, petroleum and petrochemicals, industrial goods, and consumer products. In addition, SGS oversees all or any part of commercial transactions and operations associated with the buying, selling, trading, and moving of raw materials, industrial equipment, and consumer goods. With personnel in more than 140 cities and an extensive network of Liaison and Operating offices, SGS claims to be at home anywhere in the world.

To increase the efficiency of its operations, Mr. Smadja of SGS, the key player in the project, explored the feasibility of data transfer between its offices worldwide as a way to reduce communications costs, eliminate duplicate entry of data and reduce the error rate this duplication causes, speed up operations, and improve the quality of SGS services to its worldwide offices.

SGS wanted to use IBM S36 computers for data transmission wherever possible. A PC-based solution would be acceptable only at sites where IBM hardware was not installed and not immediately attainable, as a backup system, or if local conditions or regulations allow no other alternative.

SGS was considering a store and forward service that would transfer data between their main computers (e.g., IBM S36, HP3000, DG/MV8000). However, SGS was willing to use a PC-based solution as an interim approach. In the long term, SGS also requires an IBM S36 workstation that could handle electronic mail as well.

Competition for this account came from IBM and INFONET. INFONET was the more aggressive contender, arranging meetings in their US and Japan offices with SGS senior management. IBM seemed not to take the bid seriously and was quickly eliminated.

The GE IS Swiss team proposed a solution based on a store and forward data base accessible from an IBM 36 workstation (using BSC 3780) and FTU/XMODEM solution for PC locations. SGS management visited the Executive Briefing Center in Rockville and our offices in Japan, the Philippines, Hong Kong, and Singapore and concluded that GE IS was the vendor of choice.

Major factors contributing to the win were GE IS' worldwide access points and support infrastructure and the consistent hard work of the account team: Marco Gili, Didier Hostettler, Marie-Jose Duquesne, Christina Ben Meftah, and Aman Khan. The SGS account is now being managed by Marie-Jose.

Application rollout has been quite smooth, thanks to excellent local support organizations, particularly in Manila and Taipeh. The system is now operational in Kobe, Singapore, Hong Kong, Hamburg, Manila, Miami, Caracas, Geneva, and Lima. The client has recently decided to use QUIK-COMM and a pilot is in progress, with senior management using PC Mailbox to exchange messages.

SGS is satisfied with the present solution and is considering using EDI*EXPRESS in the future.

Aman Khan, Switzerland

FASTFAX

Q Do you have a contact for the GE Walt Disney World Executive Club?

Ron Nutter
Denver, CO

A Yes, the area code for Lake Buena Vista in Florida has changed so if you had tried the 305 area code you met with no luck. The new number is (407) 827-5646. For those interested in the Walt Disney Magic Kingdom Club, that telephone number is (407) 827-5655.

Q Can you tell me what cost center a specific user number belongs to?

Jim Simmons
Manila, Philippines

A Yes I can. I have a name and address list of all user numbers and can tell you the responsible cost center. Files on QK11 that can help you with cost centers are CCCLIST and WORLDTPS, which have the USA and international cost centers. Keep in mind that there is a QUIK-COMM address naming convention that allows you to send a QUIK-COMM message directly to revenue cost centers. The naming convention is CCxxx, where xxx is the cost center.

Q I have a copy of an "Overview of Contingency Planning at GEIS" dated August 5, 1988. Who prepared this document?

Dave Wiig
Fairfield, CT

A The document was prepared by Jim Morgan, *our security guru.* If you want another copy, it can be found on QK11 in a file named DRP.DOC—I have also placed the information in InfoTalk in Fast*Fax.

Q The DY28LIST file on the DY28 catalog has not been updated since 1986. Are there any intentions to update this file?

Tai Kubo
Tokyo, Japan

A A lot of files on DY28 and QK11 contain valuable information. However, a concerted effort is being made to make that information available in InfoTalk. DY28LIST and INDEX* are the best two files available outside of InfoTalk. DY28LIST has older files, many of which are no longer on the system. INDEX* is kept up to date and has names of more recent files.

Q Where is the Client Services International file that contains support personnel?

Bob Rengers
Rockville, MD

A That file is named CSIROS on QK11. It has personnel names, telephone numbers, QUIK-COMM addresses, titles, and hours of operation for our Client Service desks around the world.

Q One of my clients has been given information on a product named FDM. Can you tell me something about it?

Bob Caton
Rochester, NY

A File Dispatch Manager (FDM) was written about 5 years ago by Belgium Technical Support. Essentially it provides a batch store and forward for System/3x machines. For more information, refer to InfoTalk's Transport Library. The user's guide and technical manual are in the DY28 catalog, filenames FDMUSER and FDMSPEC, respectively. The transfer price is different from that listed in the library, so contact Jacques Debrulle (QUIK-COMM: BGMT, BGBP) for the current price.

Q What is the name and telephone number of our discount vendor for PC hardware and software?

Joe Bublik
Cleveland, OH

A We can buy those items and others at discount from Integrated Management System (IMS), at (1-800-426-5258). Talk with Patty Wells or Sherry Guardi, who handle the GE accounts and know the proper pricing.

Q What is the price of PC Mailbox 4.0 and ABUs in France?

Dave Sakowsky
Dearborn, MI

A A list of distributor prices for PC Mailbox is contained in the QK11 file named PCMB3.PR. Since the prices for version 3.0 and 4.0 are the same, you can look down the version 3.0 column for the correct French price. As for ABU charges, you can find them in REFBOOK, or you can list the REFBOOK file named ABUPRICE.

Fast*Fax Tips & Notes

QUIK-COMM TOOLKIT

Did you see the QUIK-COMM message concerning QUIK-COMM TOOLKIT? If you did not you should reference InfoTalk by following the path:

Products & Services
  MESSAGING PRODUCTS
    QUIK-COMM
      QUIK-COMM TOOLKIT
      DESCRIPTION
      QUIK-COMM BASIC
      DEVELOPERS GUIDE

The TOOLKIT provides a powerful set of tools and capabilities to allow GE IS Application Development and SDC personnel to create high-value-added applications that meet our clients' computer based messaging systems needs. This technology, introduced by Systems Marketing, will allow implementation of features and functionality not found in our current product offerings.

There have been a lot of questions recently about support in countries where GE IS is not represented by a local distributor. Global Support Services, headed by John Roeder, provides technical and sales supports for those countries. They have been around for over 2 years and can provide experience and insight to the needs of your clients. For more information on GSS, contact John (Dial Comm 8*274-6436, (301) 251-6436 or QUIK-COMM: GSP$). Information about GSS is in a QK11 file named GSS.PROC.

INDUSTRY BRIEFS

AT&T has unveiled sketchy plans to enter the Systems Integration Business of building custom data and voice networks for businesses. AT&T will initially sell telemarketing, data networking and network management applications, targeting the financial services, manufacturing and distribution industries in order to meet the needs of an increasing number of companies installing custom phone and data networks.

The Dutch telecommunications ministry expects to finalize a bilateral agreement on value-added network (VAN) services with the US by the end of 1988. The agreement will coincide with a new telecommunications bill in the Netherlands that will substantially liberalize the Dutch telecoms market effective January 1, 1989.

The bill will enable any independent party to run a value-added network service without needing to apply for a license. The only constraint will be on reselling capacity to third parties, according to the Dutch telecoms administration, Nederland PTT.

The Dutch-US pact is expected to be as liberal as the agreement signed last month between the UK and the US. Both agreements effectively bypass usage conditions for international leased circuits laid out by the International Telegraph and Telephone Consultative Committee in its D.1 and D.6 recommendations. In so doing, the agreements give competitive advantage to companies based in the countries involved.

The market for very-small-aperture terminals (VSATs) in satellite communications is poised for dynamic growth in Europe, according to a report released by the European Space Agency. The installed base of VSATs could jump from about 300 sites to more than 40,000 by 1993, it says.

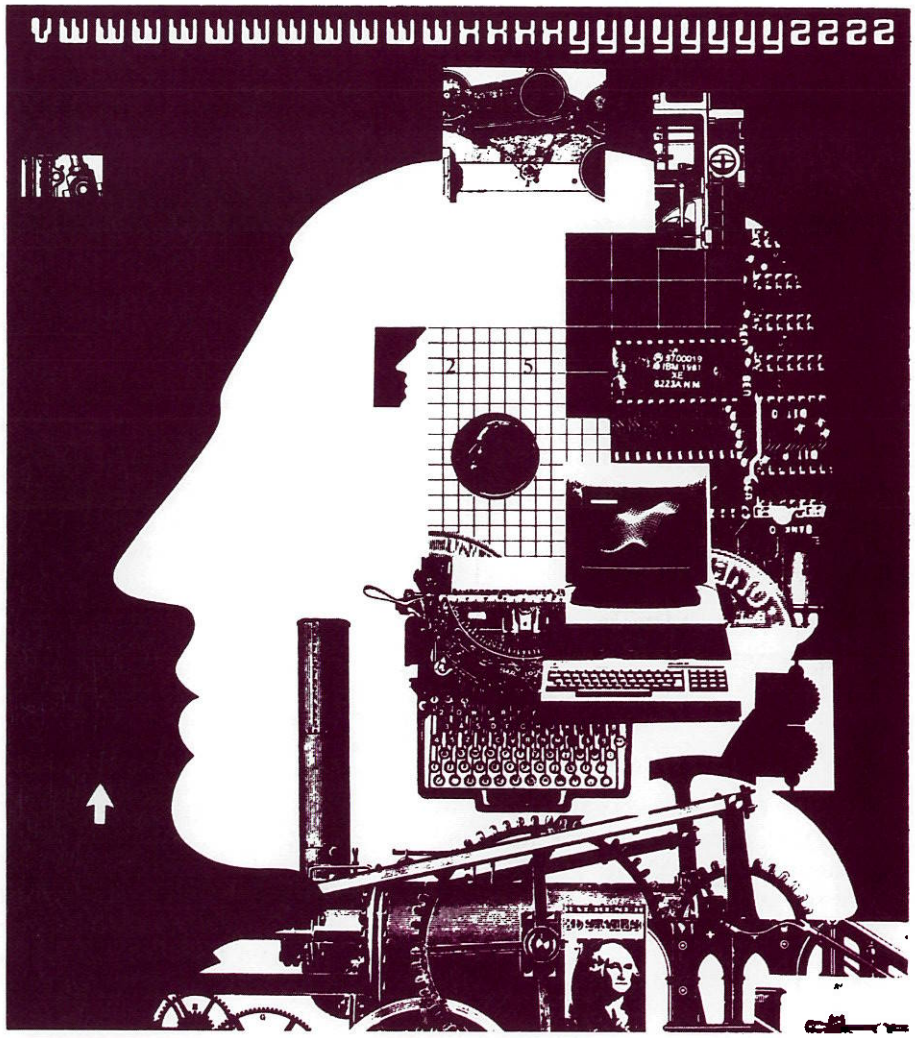
The growth, however, will depend almost entirely on whether the national telecommunications administrations decide to offer VSAT services. Major regulatory hurdles still prevent the use of satellite networks by private operators, except in the UK, which has licensed six consortia to offer services in competition with British Telecom and Mercury Communications Ltd. on domestic satellite networks.

The report sees a 15-year window for VSAT data applications before the integrated services digital network (ISDN) becomes widespread.

Apollo Computer Inc. has introduced several new communications products that enhance its open systems strategy for interconnecting Apollo's workstations to any multivendor network.

Apollo now offers new interconnects into IBM and DEC computing environments and new products supporting international communications standards. Apollo is the first workstation vendor to support IBM's Token Ring. IBM and Apollo are joint testing IBM's new 16Mbps token ring network adapter cards.

"Today's communications announcements from Apollo extend a comprehensive long-range product and technology transition that has taken us from a proprietary computing architecture to an open environment that supports industry communication standards and today's multivendor networks," said Keith LeFebvre, manager of data communications marketing at Apollo.



Bowing to US pressure, Japan has agreed to broaden its technical standards for global data-transmission services for business users. The concession will enable computer companies like IBM, GE, and Northern Telecom Inc. to continue using or to introduce their own proprietary systems for data transmission networks used by banks, airlines, and other businesses. The accord will allow the US companies to exploit their technological advantages in servicing one of the fastest growing segments of the Japanese telecommunications market.

The agreement contains a provision to prevent the technically superior US networks from shutting out Japanese competitors from the US companies' data bases. US operators will be required to provide the Japanese firms with the "technical capability" to interconnect with the US systems.

Japanese officials acknowledge that the accord will assure IBM a leading share of that segment of the Japanese market. NEC Corp. and Fujitsu Ltd., among other Japanese concerns, are entering the market, but under this agreement, they may have to buy IBM know-how to route their customers' requests to US data bases.

Europe's telecommunications markets will grow at 9 percent a year over the next five years, generating revenues of more than $100bn by 1992, according to market analyst, Dataquest.

Within this generally rosy picture, however, performance of various segments of the industry will vary. Dataquest projects explosive growth in mobile communications, facsimile and data communications markets. Public and private telephone exchanges—the mainstay of the telecommunications sector in recent years—it predicts, will only creep upwards.

Specific forecasts for the next five years include the following:
—Telecommunictions markets in Western Europe will grow to $105bn in 1992 (from $67bn in 1987), a growth rate more than double the US expected growth.
—The modernization of Europe's telephone networks is already in full swing, so the market for public digital exchanges will grow only slightly to $3.2bn, with West Germany accounting for most of this growth.
—The facsimile equipment market will reach $4.3bn. Japanese manufacturers will strengthen their hold.
—Data communications markets will perform strongly, generating sales of $5.2bn in 1992. These markets will be increasingly dominated by local area networks.
—Manufacturing and retailing will take over from financial services in providing stimulus for extending value-added telecommunications services.

A Tribute

Russell Murray died on December 11, 1988, after a three month courageous battle against cancer. His death was not only a tragic loss for his family but also a major loss for the business. He will be missed greatly in the company as a colleague and a friend.

For the past nine years, Russell devoted his considerable energies to GE Information Services. He held leadership positions successively as Banking District Manager in England and France, Sales and General Manager, the Netherlands, and General Manager, Asia/Pacific Affiliates. Had death not overtaken him, he would have become General Manager of Banking & Financial Services, Europe.

Throughout his career with GE IS, Russell was highly regarded by employees and clients for his excellent business judgment as well as his deep understanding of sales and client needs. He was a man of courage, standing up for his values, looking out for his people, supporting his clients at whatever cost.

To paraphrase the words of Danny Schultz in a heartfelt message written to Russell too late to reach him even by QUIK-COMM and read by Danny at his funeral:

During the last three months of his life, Russell Murray fought the ultimate challenge of his life, dealing with death as if it were a business matter of some importance, resolving all outstanding issues. Those who were in contact with Russell during that time could have no doubt about the strength of his character. He taught us a lesson in courage that no one will forget.

MILESTONES

Congratulations to the following GE Information Services employees who celebrated service anniversaries in November and December, 1988 and in January, 1989.

YEARS 40

Donald Farrell
Rockville, MD

Frank L. Hopkins
Rockville, MD

YEARS 30

Frank Brzeczek
Rockville, MD

Flaviano Neri
Milan, Italy

Larry L. Rollins
Rockville, MD

YEARS 25

Rudy Gawron
New York, NY

YEARS 20

Loyal Huddleston
Phoenix, AZ

Steef Meeuwisse
Amsterdam,
the Netherlands

Hattie L. Moore
Rockville, MD

Baghad Osman
Amsterdam,
the Netherlands

Piero Radovan
Milan, Italy

Attilio Trombini
Milan, Italy

Ger Wezemer
Amsterdam,
the Netherlands

YEARS 15

Barbara L. Cresswell
Chicago, IL

Richard K. Erdmann
Rockville, MD

Patrick J. Gagen
Brook Park, OH

Jesse L. Garrett
Brook Park, OH

John R. Hydock
Brook Park, OH

Mary C. LeFave
Rockville, MD

Rudolph (Mickey)
Robinson
Rockville, MD

Daniel Roe
Rockville, MD

Linda A. Woodard
Rockville, MD

YEARS 10

Juergen Boeffgen
Huerth, Germany

Lin Bower
Rockville, MD

Beulah B. Brandon
St. Louis, MO

John R. Brigden
Rockville, MD

Adrienne Byer
Los Angeles, CA

Susan D. Bynum
Rockville, MD

Alberto Caglio
Milan, Italy

Bob Carter
London, England

Gary Clark
Rockville, MD

William Codrington
Brook Park, OH

Jerry Conner
Rockville, MD

Doris Cox
Atlanta, GA

Gerd Eickers
Huerth, Germany

Franca Favini
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Brook Park, OH

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Martha E. Holloway
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Ida S. Hsu
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Robert B. Jessup
Rockville, MD

Sekharam Kasturi
Oak Brook, IL

John M. Kondo
Rockville, MD

Annie Lesaffre
Paris, France

Bernadette Leidinger
Frankfurt, Germany

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Brook Park, OH

Ursula Meyer
Huerth, Germany

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Frankfurt, Germany

Deborah Scott
Meriden, CT

Emanuela Sferco
Milan, Italy

Giovanna Storti
Milan, Italy

Detlef Schulte
Strathaus
Huerth, Germany

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Meinolf Tegethoff
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Donald K. Werner
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Bernd Werres
Huerth, Germany

Roland Wimmer
Linz, Austria

Joseph A. Zermeno
Houston, TX

YEARS 5

Eurfyl ap Gwilym
London, England

Liz Baran
London, England

David Beard
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Dick Berman
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Peggy Ann Jarolin
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Fairfield, CT

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Tatiana Thrupp-Goldberg
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Laurent Verney
Paris, France

AnneMarie Nygren
Stockholm, Sweden

James A. Rawls
Atlanta, GA

Ann Simi
Rockville, MD

Eloise Thatcher
Cleveland, OH

Steve Tierney
London, England

Bob Wilkie
London, England

NEW&REVISED DOCUMENTATION

The following documents were published between October and mid-December. This list is accurate as of December 12. Copies of these publications can be secured using the On-Line Ordering System (OLOS).

Pub. No.	Rev. Let.	Publication Title	New/ Rev.	Data Pub'd.
310.06	–	Trading UP September 1988	New	9/88
900.96	–	Success Story #23–Coca-Cola	New	8844
900.97	–	Success Story #24–Michelin	New	8845
900.98	–	Success Story #25–Jim Walter Homes	New	8845
1376.01-1	E	GEnie User's Manual–1989 Edition	Rev	9/88
1389.13-1	–	The BusinessTALK User's Guide For the IBM Personal Computer Version 5.0	New	8841
1389.13-3	–	The BusinessTALK Quick Reference Guide for Version 5.0	New	8841
1389.14-1	–	The BusinessTALK System User's Guide for the Apple*Macintosh* Version 5.0	New	8841
1401.01	L	International Access Directory, October-December	Rev	8826
2051.82	A	MARK 3000 Service Worldwide SNA Network Connectivity Product Profile	Rev	8842
3410.98	G	The GE QUIK*NET System: QUIK-COMM Address Directory, December 1988	Rev	8846
3410.107	B	QUIK-COMM to PROFS Service Product Profile	Rev	8839
3410.111-3	A	QUIK-COMM to PROFS Service Guide for PROFS Users (Version 3.5)	Rev	8844
3410.111-4	A	QUIK-COMM to PROFS Service Installation, Administrative & Troubleshooting Guide for PROFS Users (Version 3.5)	Rev	8846
3410.124-1	A	QUIK-COMM to ALL-IN-1 Service Guide for ALL-IN-1 Users (Version 3.5)	Rev	8840
3410.124-2	A	QUIK-COMM to ALL-IN-1 Service, Installation, Administration & Troubleshooting Guide (Version 3.5)	Rev	8838
3410.124-4	A	QUIK-COMM to ALL-IN-1 Service Guide for VMSMAIL Users (Version 3.5)	Rev	8840
3410.125	A	QUIK-COMM to ALL-IN-1 Service Product Profile	Rev	8839
3412.03	–	QUIK-COMM to Wang Office Connector Product Profile	New	8845
3501.50	–	MARK III Service HI-TEXT Developer's Guide	New	8849
3918.09	N	MARK*NET Service Access Directory, November 1988-February 1989	Rev	8847
5070.17-1	A	Supplemental Price Schedule to EDI Products and Services	New	8841
5070.74-2	–	EDI*EXPRESS System User Manual Change Pages, October 1988	New	10/88
5070.75-2	–	EDI*EXPRESS System High-Speed Service User Manual Change Pages, October 1988	New	10/88
5070.76-2	–	EDI*EXPRESS System Low-Speed Service User Manual Change Pages, October 1988	New	10/88
5070.81-3	–	The EDI*UPDATE Newsletter, November 1988 (Volume 1, No. 3)	New	8849
5072.00	–	DESIGN*EXPRESS System Product Profile	New	8846
5072.08	–	The DESIGN*EXPRESS System: System Overview	New	8845
5073.09	–	Translator Interface and Print Programs User's Guide (Version 1.0)	New	8839

GE Information Services

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