



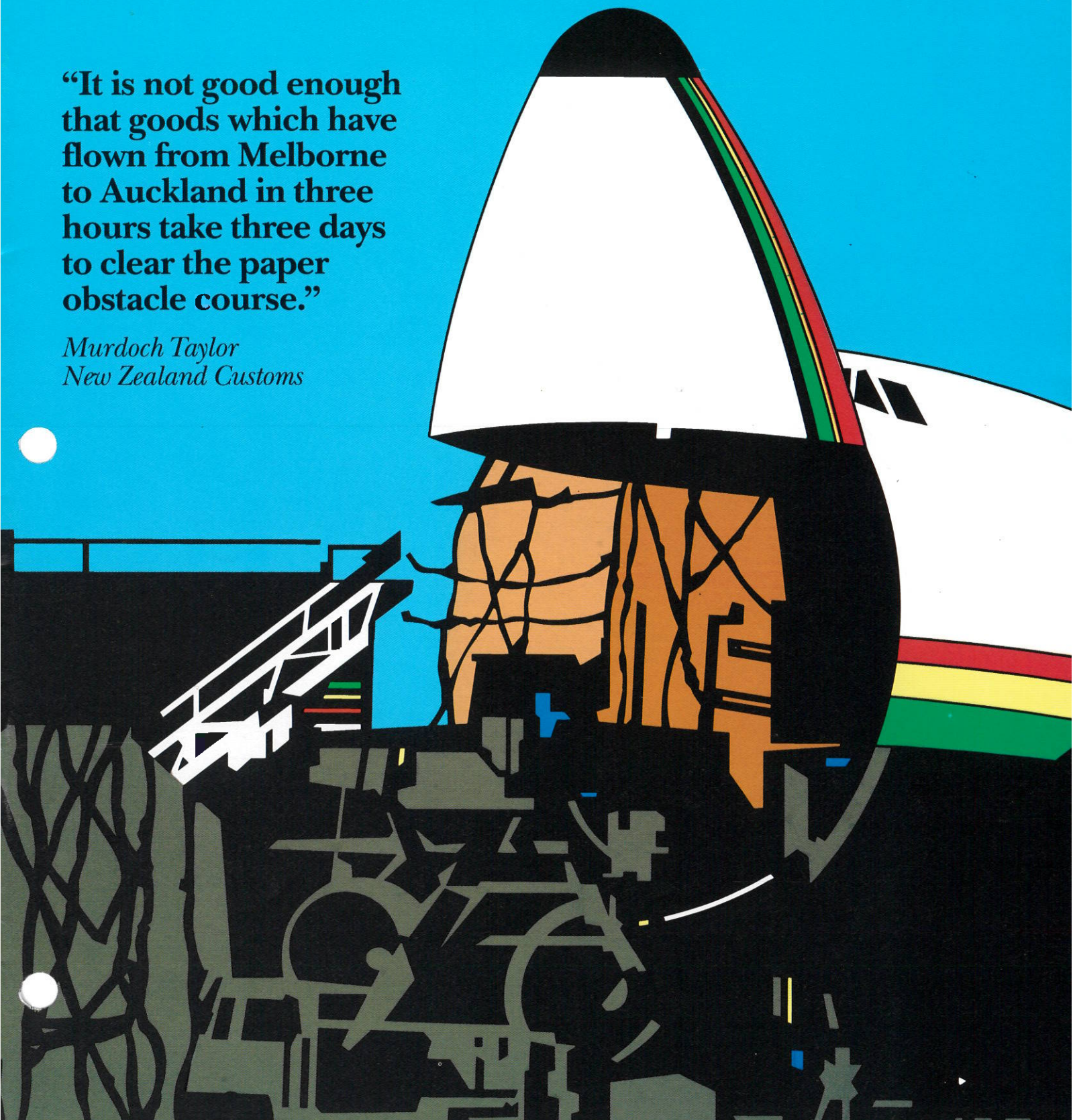
SPECTRUM

For Employees of GE Information Services Around the World

November 1989

“It is not good enough that goods which have flown from Melbourne to Auckland in three hours take three days to clear the paper obstacle course.”

*Murdoch Taylor
New Zealand Customs*





About the cover

New Zealand Customs is ending the paper chase that slows the movement of goods by promoting the use of electronic data interchange throughout the trade and travel industry. Its cargo clearance system, developed by GE Information Services using EDI*EXPRESS, has reduced clearance time from three days to three hours. This is just the first step toward linking the entire trading community in the electronic movement of data.

SPECTRUM is published for employees of GE Information Services by Employee Communications, 401 N. Washington Street, MC07E, Rockville, MD 20850

For distribution changes, send a message via the QUIK-COMM system to Jeanne Bovenberg (BOV). For additional copies, order via OLOS, publication number 0308.35

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GE Information Services

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ENDING THE PAPER CHASE

New Zealand Customs is taking the lead in moving toward electronic data interchange (EDI) throughout the trade and travel industry.

International trade is mired in a maze of paper that makes the movement of goods slow, prone to human error, and burdened by costly shipment delays. New Zealand has become one of the first countries in the world to break out of that maze by handling import clearance documents via EDI. The NZ Customs initiative is the first phase of an ambitious program by the department to introduce EDI to the entire New Zealand trade and travel industry.

According to Hon. Margaret Shields, Minister of Customs, "My Department is committed to moving toward maximum use of electronic data interchange (EDI) to facilitate international trade by the efficient transfer of documents worldwide. This should ensure that the importing and exporting communities, and, of course, Customs Agents, are not faced with frustrating bureaucratic paper log jams."

Using conventional methods, transactions move through a paper maze that can entail as many as 40 people handling documents to exchange, check, or validate information along

the path of freight and money movement. Early in 1987, the New Zealand Customs Department, which has a good record for innovation and foresight in the use of information technology, decided the time had come to end the paper chase.

"International trade depends more and more on the swift transmission of information, which under traditional trade transaction procedures cannot move fast enough to match the speed of modern transport," says Murdoch Taylor, Comptroller of Customs. "It is not good enough that goods which have flown from Melbourne to Auckland in three hours take three days to clear the paper obstacle course."

To address this concern, a working committee was set up to explore enhancements to Customs' in-house system—enhancements that Tony Mort, General Manager of Information Technology for NZ Customs, envisions "will revolutionize the entire process of cargo clearance and accounting for goods."

Forming a Partnership

New Zealand Customs first discussed the concept of a New Zealand-based integrated cargo clearance system with GE IS in mid 1987. At that time Alan Rousselot seized the opportunity and with Colin Spinks researched the needs of the Customs house. Their solution

was a system that allows importers and agents to submit goods declarations to EDI*EXPRESS. These declarations are then collected and processed by CASPER, the NZ Customs in-house application. In a true application to application environment, CASPER checks the declaration and returns a declaration status message.

Customs liked the concept and agreed to a pilot using EDIFACT syntax for electronic declaration of goods.

NZ Customs demonstrated commitment to the success of the system in every possible way. They chose the pilot participants, after soliciting nominations from the NZ Customs Society, and worked jointly with GE IS to specify all modifications necessary for true application integration.

Customs agents and freight forwarders chosen for the pilot worked enthusiastically to integrate EDI with their in-house cargo processing systems. At the same time, NZ Customs enhanced the CASPER system so that no human intervention would be necessary in processing the declarations.

To ensure its success, GE IS provided support and training for the pilot. Fred Kramer and John Hart provided support in Wellington, and Ashley McKertish in Auckland. Colin Spinks, who seemed to be living in New Zealand rather than his Australia base, provided overall support.

Wellington Harbour is a hub of international trade in New Zealand. Use of EDI in cargo clearance will streamline the movement of goods in and out of the Port of Wellington.

The pilot was not intended to test the GE IS technology—that was accepted—but to resolve all the hidden issues that arise in integrating EDI with in-house applications and procedures. The pilot was such a resounding success that agents not in the pilot were pressuring Customs management for inclusion, since they saw the pilot participants as having a competitive edge!

Commercializing the Service

Because of this strong interest, Customs decided to commercialize the system, called Customs EDI For International Trade (CEDI*FIT), before the pilot was completed. In delivering the new service, NZ Customs has established its own hot line, help desk, and ramping group. QUIK-COMM is used to communicate between all the users and plans are well advanced to incorporate BusinessTalk into CEDI*FIT.

By the end of September, 51 users were live on the system and another 28 organizations were in test. During September, more than 15,000 import entries were declared to NZ Customs via EDI*EXPRESS. This represents nearly half the total volume of Customs Entry Declaration for New Zealand. Not bad considering that the system went commercial in February 1989.

“Bigger agents have already found that their savings in storage and demurrage (delay in shipment) costs alone are more than enough to warrant joining the service,” says Tony Mort. “In fact, its speed of turnaround makes CEDI*FIT so attractive that even small importers, who make only a handful of entries a year, want to join.”

NZ Customs’ conventional system guarantees a turnaround time of 24 hours for air freight documents and from two to four days for sea freight. The CEDI*FIT system offers a maximum turnaround on all freight of four hours. Early performance of the system indicates that turnaround times will be even less than that.

“Everyone involved in EDI benefits,” says Tony Mort. “The Department benefits by improving its efficiency. Customs agents and importers benefit because EDI replaces yesterday’s time consuming and costly paper-based sys-

“International trade depends more and more on the swift transmission of information, which under traditional trade transaction procedures cannot move fast enough to match the speed of modern transport.”

Murdoch Taylor, Comptroller of Customs

tems with a single transaction. Those receiving the goods benefit because this increased efficiency means that they’ll get their goods faster. Ultimately it is the customer who benefits through the reduced cost of imported goods.”

“The great success of CEDI*FIT is the result of Customs consulting the trading community every step of the way,” says Colin Spinks, who helped develop the NZ project and is closely involved with similar projects in Asia/Pacific. “CEDI*FIT is the first logical step toward a fully integrated cargo clearance and nationwide trade facilitation system linking importers, banks, shippers, exporters, forwarders, and ports. Access to CEDI*FIT is available internationally via a local telephone call, giving overseas organizations EDI links to their New Zealand trading partners. This opens up the potential for electronic cargo tracking, order status, container management, and trade payment systems.”

International Team Approach

Getting this system running smoothly was a real team effort with a large cast of players.

From the U.S., Bob Cage was very supportive in offering advice on billing and contractual matters. Cathy Wall and Eileen Hargadine, T&T marketing, U.S., showed interest in and enthusiasm for a system that already dwarfs the New York/New Jersey Port Authority ACES system. Ophel (Roy) Iyamu made a super effort in establishing the EDIFACT documents in EDI*Express. Rochelle Cohen and her EDI support team gave advice on ramping/start-up kits and made a great effort in establishing up to

20 user numbers at a time. Dick Amato helped resolve some of the early operational problems.

From New Zealand, Alan Rousselot, now back in Australia, closed the initial feasibility requirement study. John Simon extended the sale by closing the pilot and commercial system. Ashley McKertish provided technical excellence in helping the Auckland pilot participants. Fred Kramer, now back in Australia, helped with the NZ Customs connectivity. Diane Janett prepared the required documentation.

An EDI World First

Given our record in delivering innovative solutions, GE IS was selected to deliver what is probably a world first EDI system for passenger processing. The system, called Customs EDI for Passenger Exchange, or CEDI*PAX, is designed to facilitate the movement of inbound air passengers through the airport and to improve the security screening process.

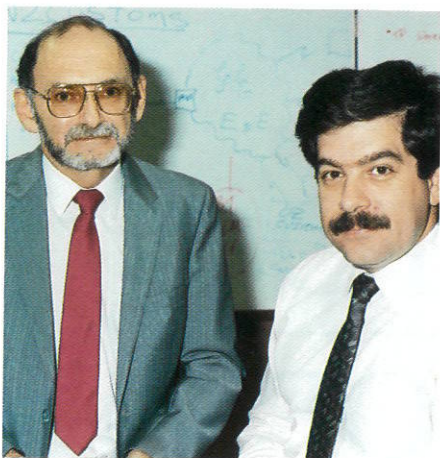
Under the manual system, departing passengers have their passport and flight details recorded at the point of departure and on arrival this data is re-entered. With CEDI*PAX, the data entered at the departure point is sent via EDI*EXPRESS to the destination country. Having advance information on arriving passengers enables receiving authorities to allocate appropriate customs and immigration personnel and to pre-clear the passengers before the aircraft arrives.

“CEDI*PAX enables an aircraft landing in Wellington to be cleared by Customs in 20 minutes,” says Tony Mort. “This is good public relations both for the airlines and for us.”

EDI*PAX is now fully operational between New Zealand and Australia and is being tested by U.S. Customs. New Zealand has invited all countries in the Asia/Pacific region to participate as well.

Forging Ahead

As evidence of its strong commitment to EDI, NZ Customs has signed a new contract with GE IS to greatly enhance the CEDI*FIT service. The project, called “Operation 90 Percent,”



Alan Rousselot, sales manager, Australia, (right) played a key role in the initial feasibility requirements study. Here he works with Colin Spinks, who has played a major role in supporting NZ Customs from the outset.



reflects Customs' commitment to have 90 percent of all data now manually processed move via EDI by the end of the year.

GE IS is building a Trade and Transportation workstation for NZ Customs' CEDI*FIT clients that will enable users to easily enter goods declaration messages and receive responses from Customs. It will drive the BusinessTalk applications and enable users to access selected data bases on Customs' host.

GE IS will also support a pilot for sending goods declaration and response between New Zealand and Australia, using messages developed by the Customs Cooperation Council. CEDI*FIT will be extended to enable export as well as import documents to be submitted by the commercial community. This means that by 1990, one country's export declaration will become the other's import declaration. Perhaps another EDI first.

New Zealand Customs is very aware of the 1992 date set by the European Community for frontier free trade among its member countries, effectively setting up a market—and trading block—of more than 300 million people. New Zealand's aggressive moves into EDI position it competitively to trade in this new European market.



Top: A major factor in the successful partnership between GE IS and NZ Customs is the close working relationship established between the two. Here, key players from GE IS and Customs discuss the functionality of BusinessTalk as it will be incorporated into the new Customs workstation. From left to right are Colin Spinks, senior consultant, Distributed Systems, GE IS, Tony Mori, manager, Information Technology, NZ Customs, Peter Cowley, systems analyst, Client Support, NZ Customs, John Simon, sales manager, New Zealand, GE IS, and Graham Wilson, manager, Client Support, NZ Customs.

Bottom: NZ Customs is working with Customs agents, importers, and freight forwarders in all the country's ports to encourage the use of EDI in international trade. Shown here is Aotea Quay, a busy New Zealand port.

GETTING TO THE CORE OF APPLE

GE Information Services and Apple Computer have forged a new relationship that promises to push technological frontiers. The trick was getting to the core of the problem.

“**G**E Information Services’ relationship with Apple has been a roller coaster ride,” says Katie Vogelheim, manager, U.S. Industry Group West. “It’s had its ups and downs, but our recent success has put us on a strong upward course.”

After nearly a year of negotiations, Apple Computer and GE Information Services have signed a 2.5 year agreement whereby Apple will continue to use the AppleLink system, jointly developed in 1984, and GE IS will work closely with Apple to continue to upgrade the system to meet Apple’s expanding needs as it positions itself to be a key player in the computer industry of the 1990s.



Even as the contract was being negotiated, the GE IS SDC group in San Francisco, CA, were finalizing development of a faster, more robust version of AppleLink, which greatly expands the functionality of the system to address Apple’s immediate needs.

Origin of the System

Back in 1984, AppleLink was developed in response to Apple’s desire to find a better way to address the information needs of its some 2,000 dealers spread across the U.S. Apple, which places high priority on customer service, felt that the customer service desk approach, whereby dealers called the company’s headquarters to get answers to a host of questions—from



The atmosphere on the Apple campus in Cupertino, CA, and the California sunshine draw people outdoors. Here Apple and GE IS people assigned to AppleLink development take a break. From left to right are Kevin Poole, Anthony Bay, Rick McEachern, Dianna Keith, and Cleve Spehr. GE IS people working at Apple have gladly adopted the more relaxed dress code on the campus.

price lists and product enhancements to installation assistance—was neither cost effective nor fully responsive to its dealers' needs.

AppleLink, a modified version of which is sold by GE IS as BusinessTalk and used internally as InfoTalk, consists of bulletin boards to which Apple people can post information, data bases from which data can be retrieved by doing a key word search, alerts for flagging timely announcements, and electronic mail for both internal and external messaging.

The system, which was quite technologically advanced for its time, gave dealers access to a wealth of information that enabled them to provide better service to their clients and

enhanced Apple's reputation as a customer service oriented company.

During the years since 1984, Apple Computer has experienced dynamic growth in market share, revenue, and the number of people it employs. And AppleLink has become part of the Apple culture as its expanding core of computer wizards depend on it as their primary communications tool.

By 1987, Apple had 9,000 addresses on the system and at peak times had as many as 150 simultaneous users. This level of consumption put great strains on the AppleLink application, which was not designed for so many simultaneous users. At times the system just could not respond. This in turn put great strains on the Apple/GE IS

relationship.

"We simply had not stayed close enough to the client," says Katie Vogelheim. "Apple was asking more of the system than we were prepared to provide. We were in the horrible position of being unable to meet our client's usage demands. Luckily, the importance of the Apple relationship and the challenge to turn it around galvanized a lot of people to action."

The Apple challenge became a business-wide challenge. People in technology, marketing, and sales worked as a team to understand Apple's requirements and find solutions to meet their needs.

"There's an old saying: Don't judge a man until you walk a mile in his

moccasins. And that's true in doing business with a company like Apple or any other company," says Clete Spehr, who joined the Apple team about 18 months ago to help address Apple's concerns. "We tend to forget to put ourselves in the client's shoes and view ourselves as the client views us. That was really one of the key things at Apple. We went in and we understood their perception of us. And the real story is how we went about changing their perception."

Galvanizing the Team

Apple people just couldn't understand why a message going to somebody down the hall had to be routed by way of Amstelveen. Rather than trying to prove the efficiency of the routing system, GE IS decided to allay Apple's concern by moving their entire system from Amstelveen to Ohio. Zigi Quastler pulled his team together and accomplished this over a weekend—without a hitch. Score one for GE IS credibility.

Jim Rossini led the charge to "fix AppleLink." Steve Mudrick's team developed a series of QUIK-COMM enhancements, including completely redoing the QUIK-COMM code. As a result, GE IS has realized improved profit margins throughout the QUIK-COMM business. Mary Howard and her team worked on optimizing system use. Joe Squarzini and Charlie Gallo way put their teams to work to install gateways into the Apple campus and set up Apple as a major network node.

At the same time, AppleLink 5.0 was being implemented. This new version offers much greater functionality, including better support for graphics documents, a Send File desk accessory, and Multifinder compatibility. The new EFX error-free protocol, developed by Robert Metcalfe of the Western Technical Center, is a revolutionary communications software package. EFX not only reduces the system response time tenfold, but it is so applicable to other solutions that it is being released as a new GE IS offering.



GE IS and Apple people working on developments to AppleLink have become a true team. Shown here are (left to right) Rick McEachern, Apple, Kevin Poole, Apple account manager, GE IS, and Nancy Casey and Anthony Bay, Apple.

As a result of this team effort to fix AppleLink, Apple has a system responsive to its needs. In 1987, peak user capacity was at 150. AppleLink now has capacity to handle 1,500 users—a tenfold performance improvement. With Apple's peak usage at around 625, for the first time capacity exceeds requirements. Log-on time has been improved from 60 seconds in 1987 to 15 seconds today. The time required to open a bulletin board has gone from 50 seconds in 1987 to 6 seconds today.

These efforts dramatically changed Apple's perception of GE IS and paved the way for a contract that is a win-win for both parties.

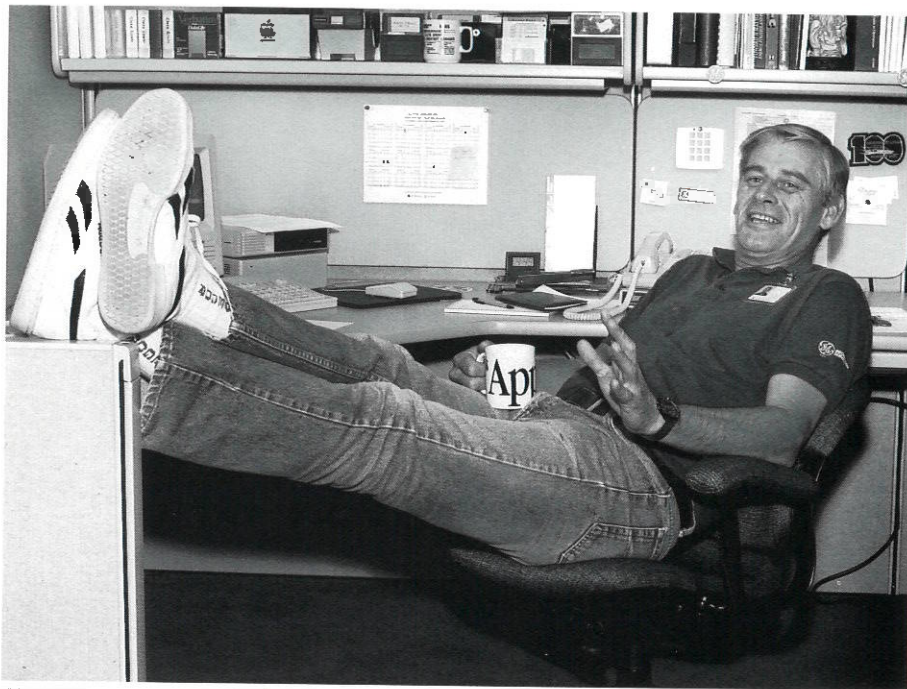
The contract gives Apple license to the new error-free protocol, EFX, and provides for discounts on future GE IS applications. GE IS gains a worldwide royalty-free license to sell AppleLink 5.0 to other clients and prospects, excluding a dozen or so companies that

Apple views as its direct competitors.

A unique aspect of the contract is performance-based pricing, whereby GE IS' price to Apple can swing five percent in either direction based on system performance. A special application monitoring program systematically measures log-on time, response time, and network throughput, comparing actual data to negotiated targets. If GE IS exceeds the targets in a given measurement period, our price to Apple increases by up to five percent. If we fall short of the targets, our price decreases by up to five percent. This element of the contract was favored by both Apple and GE IS as an incentive not to repeat performance problems of the past.

Where We Are Today

A separate contract agreed to establish an on-site GE IS SDC team. Today, a dedicated technical management team,



Clete Spehr, manager, AppleLink Development Group, appears to be fully acclimated to the Apple culture. Here he relaxes in his office at Apple headquarters in Cupertino, CA.

headed by Clete Spehr, resides at Apple headquarters in Cupertino. Called the AppleLink Development Group, this team is working closely with Apple to continue to advance the AppleLink system to support Apple's expanding needs in business communication. Apple sees AppleLink as the center of their information plans for the future.

"AppleLink will grow from what it is today into a much broader, far reaching system in terms of the capabilities it can offer," says Clete Spehr. "Our challenge is to be able to provide the technology that is able to do that. I believe there's a lot we can do jointly in the future, especially in the area of distributed processing."

"Apple's view of the world is that a mainframe is an extension of the personal computers on their desks," says Clete. "GE IS views the world as a personal computer that is a terminal to

our host. I believe that we will meet somewhere in the middle. And that middle is going to be distributed processing. LAN technology is just now coming into its own. I think that the personal computer tied into a LAN technology, coupled with what we can do in a processing environment, will give us the platform to provide a good, cost effective distributed processing capability."

What Lies Ahead

Today, the AppleLink Development Group is being assimilated into the Apple culture—and not just in terms of their more casual dress code.

"Apple's culture is very different from GE IS' culture. Understanding the differences is critical to working effectively with Apple," says Kevin Poole, Apple account executive, who spends a good part of his time at Cupertino. "Apple's culture is more fluid, more

dynamic, with greater attention focused on informal networks than the formal organization. Much of the progress made in improving the Apple-GE IS relationship has resulted from our better understanding their culture."

The new synergy is evident at Cupertino, where the AppleLink Development Group has several projects underway that branch outside the AppleLink application.

A new order entry system, called Olé, will connect Apple's dealers to one of its three regional distribution centers. Dealers will be able to use the system to enter orders and check their status.

Another project in development is a personalized news clipping service called QuikNews, which the AppleLink Development Group is building in conjunction with GENIE. The system will permit an AppleLink user to build a news clipping file by preselecting a set of search terms. The search terms are stored in a data base on the GENIE system and compared against news stories from several news feeds. When an incoming story contains an AppleLink user's search terms, the story is clipped and delivered to the user's AppleLink In-basket.

Out into the future, opportunities appear to be unlimited. The AppleLink Development Group is working on X.400 links to other mail systems around the world. And the group sees an opportunity to tie the Olé application into EDI*Express. The message from Apple is that they want to talk to us about any creative concept we may have that expands their information environment.

"GE Information Services is committed to continue working with Apple to anticipate its direction and supply the large scale, secure communications systems Apple will need as it continues to advance in new directions," says David Page, manager, High Tech Industry. "The close relationship we have with Apple will continue to produce technology that will lead the market for years to come."



T H E

SINGAPURA

L E G E N D

Singapore, an economy spurred by its hardworking, determined people, is striving to join the ranks of developed nations in the 1990s. GE Information Services is well positioned in Singapore to support that goal.

By
M. Y. Yeow
Sales Manager, Singapore

Singapore has a vision for the 1990s: joining the ranks of the world's developed nations. This is certainly a tall order for a small island in the sun—but for this determined people, the only threat that can derail this ambition is the spectre of slower world economic growth.

Little is known of the early history of Singapore. Centuries ago, Singapore was known as Temasek, the Javanese word for "Sea Town." As the legend goes, the name "Singapura" was given by the ruler of the Sri Vijaya empire, who landed at Temasek one day while seeking refuge from a storm. In Sanskrit, "Singapura" means "Lion City," so named, it is said, because the ruler sighted a beast which he took to be a lion.

The island of Singapore is 11.8 km from east to west and 22.9 km from north to south. At a cruising speed, you

can drive across the country on one of its efficient highways in about an hour. If the size comes as a shock to the visitor to Singapore, its location on the world map baffles many, who still perceive of Singapore as part of mainland China. Even today, the local postal authority still receives countless letters indicating "Republic of China" on the envelopes. The truth is: Singapore is located just about one degree above the equator. Hence, the island is blessed with a good climate, having sunshine all the year round. However, apart from this, Singapore has nothing in terms of natural resources or endowments.

But instead of fulfilling the predictions of doom and gloom that prevailed in the '60s after the British withdrew their military base from the island, Singapore survives and achieves economic excellence that is the envy of other nations. Singapore's lack of natural wealth is more than compensated for by its most important resource: its people. With a population of 2.6 million, consisting largely of descendants of immigrants from the Malay Peninsula, China, the Indian subconti-

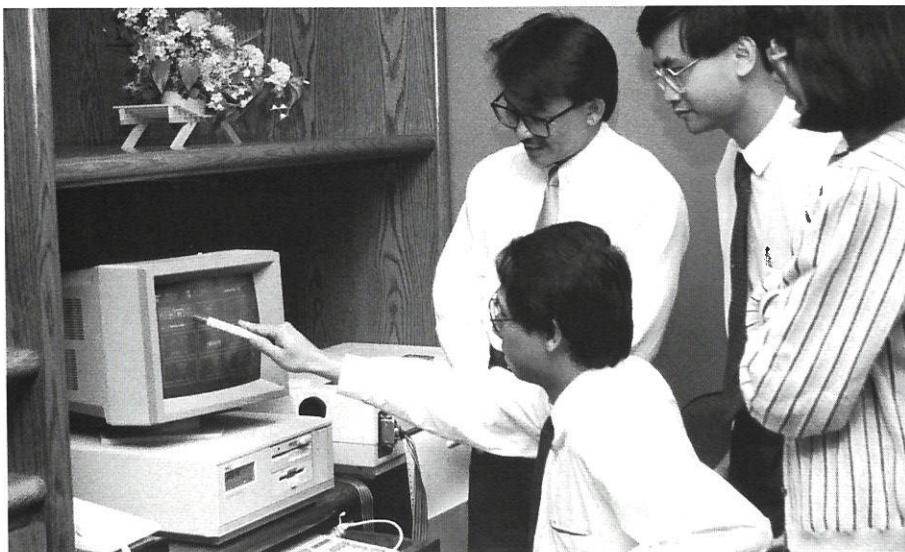
ment, and Sri Lanka, the people have gradually acquired a distinct identity as Singaporeans. Under the leadership of Prime Minister Lee Kuan Yew's strong authoritarian style of government, Singapore has made major milestones on the economic front. Per capita income has increased from about \$1,000 in the early '70s to a current level of \$8,000, a rise that is without parallel in the developing world.

GE IS in Singapore

The performance of GE Information Services in Singapore bears strong resemblance to the success stories of the country itself. The Singapore operation owes its excellent results to its team of closely knit, experienced, well trained, and creative people. Their determination to achieve and to work hard can probably be attributed to their cultural heritage. Their forefathers had left their distant homelands to make good in a strange land and were determined to succeed and to strive for the best.

GE IS in Singapore achieved a positive variance of 34 percent in total





Top left: A high level of client support is not only valued in Singapore, it is expected. GE IS Singapore makes Client Services a top priority. Shown here in the Client Services corner are (left to right) Yoke Kheng, import account manager, Virginia Chow, technical services manager, and Dinah Rozario, import executive.

Top right: Mark Evans, manager, Singapore, has helped to bring sharp industry focus to the Singapore operation.

Bottom left: Viewing a prototype solution for a client are (seated) T. G. Ong, technical rep, and (left to right) M. Y. Yeow, sales manager, Ted Tan, account manager, and Virginia Chow, technical services manager.



revenue for 1988. Other measurement parameters indicate significant improvement as well. For example, expense to revenue ratio improved by 19.5 percent. More importantly, the trend is looking good for this year. At this stage, it appears certain that Singapore will achieve its revenue target for 1989, which represents an increase of 22 percent over 1988 achievement.

Are the results always that good? Unfortunately, no. After two decades of unabated growth, Singapore's economy came to a screeching halt in 1985. From an average GDP of 9 percent, it plummeted dramatically to negative growth.

The serious economic downturn affected every facet of Singapore, ranging from construction, oil business, shipping, and manufacturing to banking and service industries. GE Information Services in Singapore was no exception. For the first time since GE IS set up operation in the island, the revenue took a severe beating, registering a huge drop of about 40 percent in 1985. Such a development raised fears about the viability and future of the operation.

Ostensibly, the major reason for the steep fall in revenue was heavy dependence on import business. However, all of us familiar with import business know that we can exercise only marginal influence and control over it. Therefore, several strategic changes were implemented to establish the business as a self-sustaining and self-reliant outfit. One of the fundamental changes was the transformation from a



M. Y. Yeow (left) and Mark Evans look over the memorandum of understanding recently signed with Singapore Network Services.

support-type operation into one that actively markets GE IS services locally.

At the helm of managing the change was the country manager of Singapore, Mark Evans. The organisation was restructured into two main sections, one focused on sales development and the other on the provision of technical support to the sales team and existing client base. Amid such turbulent times, Mark was able to pull the local team together and put it on a steady course for the future.

In retrospect, the trauma brought about by the adverse performance in 1985 can be viewed as a blessing in disguise, since it underscores the need for change. "Not only have we embraced change," says Mark Evans, "we've made it come alive, made it work for us."

Making Inroads Locally

The sales development effort in Singapore is directed toward three main sectors: Banking, Trade and Transportation, and Government. Government is chosen as a targeted sector even though it is considered to be "non traditional," primarily due to Singapore's unique situation. Here the government

plays a key role in every aspect of the country—almost to the extent of running the country as "Singapore Inc."

The approach is starting to pay dividends. GE IS' success in providing a network based solution to a key government agency, the Singapore Economic Development Board (EDB), has increased our visibility tremendously over the last twelve months. The local community is small and the word spreads fast. EDB is responsible for attracting foreign investment into Singapore, and many former senior executives of EDB are presently running the government as Ministers and Members of Parliament. The "halo effect" associated with EDB translated into more local sales closes across the three targeted sectors.

Pronto, a local international courier company, switched from the IP Sharp network to the GE IS network in June. Pronto is so impressed with the quality of GE IS that it is adding more locations to the network than previously existed with IP Sharp. Development Bank of Singapore has become the first local bank to use our services for a foreign exchange application. The regional office of Hermann Ludwig signed up with GE IS for an air-freight tracking system. Next is a sea-freight tracking system within this same organisation, which is expected to close in October.

The Economic Development Board has added a new call-report application to its services on our network. Singapore Petroleum Corporation, a government related organization, is using our services for bunker reporting. National Computer Board, a government agency, is using GE IS for its worldwide communication.

Most recently, GE IS Singapore signed a memorandum of understanding with Singapore Network Services to provide an international link to TradeNet, a national EDI system linking members of the trading community, such as freight forwarders, air cargo agents, traders, and shippers. A security reporting application for Standard Chartered Bank is also in development.

The good results with local sales development can be attributed to a few critical success factors. The restructured organization provides a focus for the

sales persons in signing up new clients, rather than the dissipation of effort through the additional role of supporting import clients as in the past. Knowledge of the local marketplace and the teamwork help tremendously as well.

Singapore Goes Global

The other key factor that leads to the abundant opportunities for GE IS in Singapore is the orchestrated effort by the Singapore government to get the local conglomerates to "go global." Instead of just harping on the buzz word of "globalisation," the government introduces various financial assistance and incentive programmes for companies willing to venture forth. In the last two years, numerous publicity and awareness programmes urged local companies to see the advantages of participating in the international marketplace. Local companies are now fully "primed" for reaching out beyond Singapore. GE Information Services stands to benefit from this "wind of change" since communication is an important component in globalisation.

Where do we go from here?

The government's relentless push toward globalisation and the repositioning of Singapore as a global strategic node will present GE IS an endless supply of sales opportunities. It also appears that Singapore may benefit from the unfortunate events in China. Even before the dust settled on Tiananmen Square, many multinational companies were reportedly making plans to shift their regional headquarters from Hong Kong to Singapore.

GE IS in Singapore appears set to more than double its revenue within the next five years. The reason for such optimism lies with the knowledge that the people share a common vision and are committed to making things happen. In addition, GE IS is doing everything possible to move closer to our clients. We literally did that when an opportunity arose this year. When our office lease expired in the middle of the year, we relocated within Raffles Place, the new place to be for all banking and financial institutions—and so the place to be for GE IS.

WINNING WITH UNILEVER

Through its emerging relationship with the multinational giant Unilever, GE Information Services is establishing itself as a strategic service provider in the Pan-European market.

Winning! It takes perseverance. It takes understanding the client's business requirements. It takes consultative selling and gaining the client's confidence. Such was the case with Unilever.

Unilever is in many ways similar to GE. It is a very large diverse business that is expanding very rapidly. Its businesses, which it calls Coordinations, span chemicals, foods, personal products, health products, detergents, and more. Its operations are spread all across the world. Like GE, Unilever believes that the world belongs to the big players and has undertaken a number of takeovers to strengthen its competitive position.

GE Information Services people in the U.K. and Holland had been courting Unilever for some time, getting a nibble of an E-mail sale here and another there, but it was about two years ago, when Unilever became disenchanted with the service level being provided by EDS, that GE IS saw its first big opportunity to serve this Anglo/Dutch conglomerate with earnings of \$35 billion per annum.

Like most large companies, Unilever and its coordinations are embarking on strategies to position their businesses as key players in a deregulated European market. Expanding through acquisition is one part of that strategy, as evidenced by the recent takeover of Faberge and Elizabeth Arden by Unilever's Personal Products Coordination (PPC). Rationalizing the manufacturing procedures of some more capital intensive businesses to achieve economy of scale is another. Today Unilever has 133 factories throughout Europe. And while the company doesn't yet know what the optimal number should be, it is certain that it's not 133—or even 130.

Underlying Unilever's efforts to improve efficiency and reduce cost is an overriding commitment to Total Quality. To deliver total quality to its customers, Unilever relies heavily on Information Technology. As it executes its strategy for a total pan-European operation, it will rely increasingly on information technology and needs an IT partner upon whom it can rely. GE IS is determined to be that partner.

Consultative Selling is Key

A key element in the European strategy of the Personal Products Coordination is to make its operation more efficient by exploiting its purchasing power and production scheduling on a pan-European basis. When the Personal Products Coordination of Unilever first approached GE IS, it had in mind development of an Electronic Data Interchange (EDI) capability between its factories and its suppliers to achieve this goal. In the early discussions, it became clear to GE IS representatives that data transport was not the solution to PPC's business needs. PPC's need, as GE IS saw it, was for several user groups—their suppliers and their production planners at their own factories—to have access to the same data base and share a common view of the world.

"It is really important to understand what the client is trying to do," says Mike Russell, senior business consultant, U.K. "We have to understand his technical concerns; we have to understand his strategic objectives. There is no chance of putting together a successful bid unless we can address our offering in a way that makes sense to the client."

That is just what GE IS did. Then, having sold PPC on the concept that transaction processing was the path to more efficient operations between its factories and suppliers, GE IS

was faced with the question of whether we could provide the solution. PPC wanted a system using Adabas, the world's leading IBM-based third party data base. While GE IS is strong in IBM experience in the U.K., it did not have depth of experience in Adabas. Nonetheless GE IS was prepared to take on the challenge. In the end, the question became moot, since during contract negotiations, PPC wrote the system, called ECOS (Electronic Call Off System), on its own DEC Vax.

GE IS' role then became that of systems integrator, porting ECOS to our IBM environment and managing its implementation throughout Europe and then around the world. GE IS' long-term goal is to become PPC's total systems provider, integrating its suppliers, customers, and transportation links into a flexible system supported by comprehensive monitoring and management facilities.

Global Teamwork Will Win the Day

With the ECOS pilot now successfully completed, GE IS is undertaking the first phase of full implementation, which, when completed, will encompass 17 countries and 40 suppliers. The first phase entails training to bring on operating companies in Finland, Norway, Germany, and Italy and a supplier in France. This will be followed by training for Austria, Switzerland, and two suppliers in Germany. This implementation will put to the test GE IS' ability to support a multinational client as one team.

"Our ability to provide local support teams wherever PPC does business was key to our winning this contract," says John Butler, manager, LSI business operations, U.K. "Our ability to deliver on that claim will be key to retaining and expanding our relationship."

As operating companies are brought up on the system, local GE IS teams will be required to provide ongoing training and support. In Germany, for example, PPC has already requested that training for a supplier in Cologne be conducted in German. And when Spain is brought on the system later this year, our distributor in Spain, Teleinformatica, will help bridge the language barrier there.

"Intracompany cooperation is critical to the success of this project," says Geoff Brickell, senior business consultant, who works very closely with PPC in support of the ECOS application. "GE IS, right along with our clients, is having to learn to cross cultural and geographic barriers to provide the kind of service global players require to be competitive. We're further along than many in acquiring what GE calls "global brains," and clients like Unilever will push us even further."

Today, in addition to the ECOS system for the Personal Products Coordination, GE IS supports several corporate systems for Unilever, the key of which is an application for their economic intelligence department, which supports competitive analysis, market share data, and other external factors that have impact on the company's market position. This Oracle data base was ported from an IBM VM environment run by EDS to MARK 3000. This posed its own challenge for GE IS, since it is the first MARK 3000 application outside the U.S. to run under VM. Moreover, since EDS was physically removing its machine on June 30, 1988, had GE IS



Geoff Brickell (left), senior business consultant, and John Butler, manager, LSI Business Operations, agree that success with a client like Unilever means staying close to the client and understanding his evolving business requirements. They are shown here during a break in a WorkOut meeting they attended in Rockville.

not been able to successfully migrate the data base, Unilever's intelligence gathering would have come to a screeching halt—and with it the GE IS relationship.

The most recent piece of business with Unilever, won by Jon Evans, the new account manager for Unilever, entails implementing across Europe an Executive Information System (EIS), based on Pilot Corp. software, for the Personal Products and Detergents Coordinations. In the longer term, GE IS envisions providing systems that will support the European and worldwide strategies of Unilever and all its Coordinations—each of which have different issues to address. Unilever recognizes the benefits of having a single network services provider for all their information technology needs. Whether GE IS will be that provider will depend on our ability to implement ECOS and other systems in the pan-European community.

As GE IS continues to develop its relationship with Unilever, the QUIK-COMM bits and pieces have grown substantially over the last year and a half under the coordination and support of GE IS Holland. QUIK-COMM has been adopted as the company standard and has led to license sales of PROFS, All in One, HP, and Wang connectors.

"We have to demonstrate that we are committed and have the capability to support large sophisticated companies like Unilever," says Ian Bullen, who was Operations Manager of the U.K. during early negotiations with Unilever. "If we can demonstrate to this client that we can help them position their business for 1992, we will be well placed to win additional contracts with Unilever. And we will have paved the way for winning business with other companies seeking to play in the Pan-European market—not only companies headquartered in Europe but also American companies that are looking to establish a European-based operation as well."

BUSINESSCLIPS

Commercial Release of Credit*PRO Opens New Opportunity in Retail

GE Information Services has expanded its support capabilities to the retail industry with the commercial release in the U.S. of its Credit*PRO system. This fully integrated credit management system automates and manages all the functions required for a retailer to offer credit to its customers.

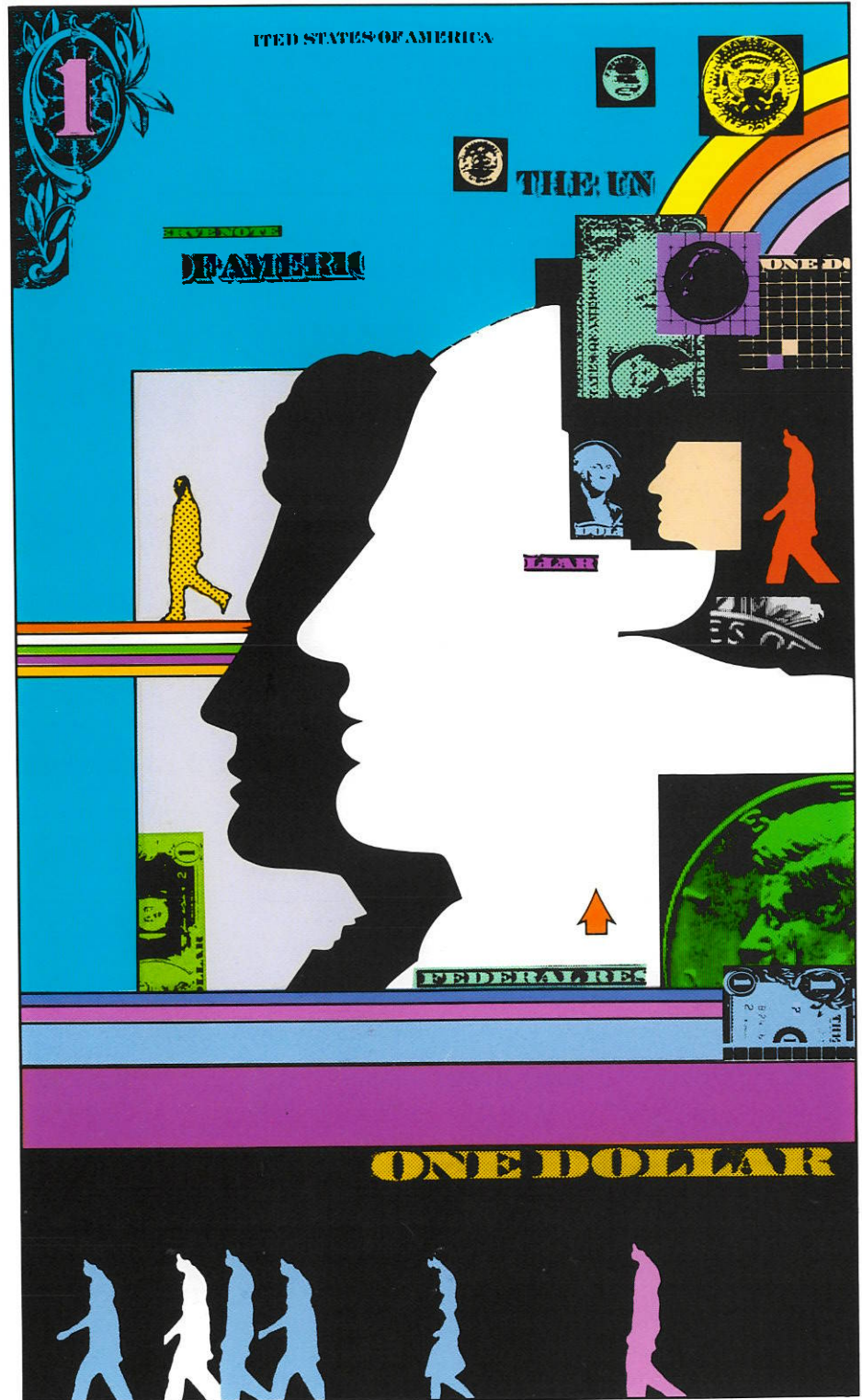
“Credit*PRO is designed specifically for those companies who run their own credit operations,” says Al Boynton, manager, Retail Industry. “It provides credit managers and customer service personnel a fully functional, user friendly system to help them manage comprehensive retail credit systems.”

Credit*PRO offers a full range of capabilities from processing new credit applications to generating management reports. Accessing all the information in the credit operation on one system enables the retailer to eliminate unnecessary paperwork, make better credit decisions, manage his customer base more efficiently, and increase profits and productivity.

Not only does the system enable retailers to efficiently manage their credit systems, the daily sales information the system generates also gives the retailer an ongoing view of his customers' buying habits.

Genie Now Available Throughout Canada

Genie, GE Information Services on-line consumer information service, is now available throughout Canada. Through an arrangement with Telecom Canada, PC enthusiasts in 166 cities throughout Canada can now access Genie via Telecom's iNet 2000 gateway service. Prior to this arrangement, Genie had been available in four major Canadian cities—Montreal, Toronto, Calgary, and Vancouver—through GE Canada.



GE IS Hosts Executive Briefing

GE Information Services, in partnership with Air France, hosted a trip to the U.S. for senior managers of key customers and prospects in France. The theme of the two-stop visit was Globalization of the Market and GE Information Services' commitment to the future.

The first stop was the Executive Briefing Center in Rockville, where guests were presented a high level view of globalization in the banking and financial services market. Presenters were Charles Goldfinger, an expert in banking and financial services, and representatives from the consulting firms of Coopers & Lybrand, Shearman & Sterling, and the Gartner Group.

At the second stop, the GE Pavillion at Disneyworld in Orlando, Florida, key GE IS clients talked about how they use GE IS services to be more competitive in their markets. Clients represented were GE Corporate, Apple Computer, Texas Instruments, and Provigo. Charlie Harp, GE Corporate, spoke about the electronic funds transfer system, Coep, which GE IS developed for GE.

NEW & REVISED DOCUMENTATION

Agreement forms and price schedules are excluded from the following list, including the 23 specially revised and distributed to sales offices and distributors during August-September. Listed, however, are another 37 documents, among those published during the July-September quarter. Copies of all these publications can be secured using the On-Line Ordering System (OLOS).

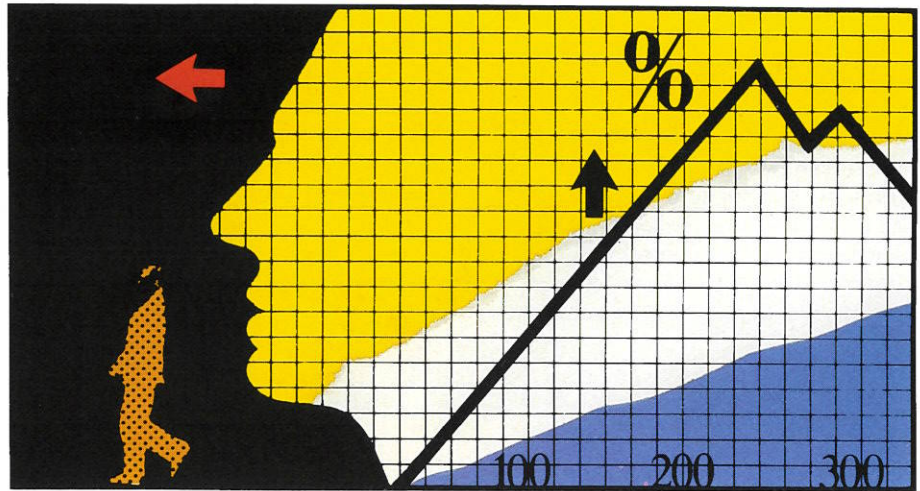
Pub. No.	Publication Title	Date Pub'd	Pub. No.	Publication Title	Date Pub'd
700.24A	Global Support Services Product Profile	Rev., 8925	3412.11-1	QUIK-COMM/CC:Mail LAN Connector User's Guide	New, 8929
902.75	Reprinted from CORPORATE CASHFLOW, April 1989 EDI: VANs, not banks, best suited to deliver remittance data	New, 7/89	3412.13	The QUIK-COMM/cc:Mail LAN Connector Product Profile	New, 8929
902.76	Reprint by permission of Petroleum Management Magazine: EDI in the Oil Patch	New, 7/89	3501.44A	Transaction Pricing Capability Reference Manual	Rev., 8939
902.77	Reprinted from The Journal of Commerce, Thursday, June 29, 1989: US Choice of Network May Boost Use of EDI	New, 7/89	3502.09D	ADM System Administrator's Guide	Rev., 8939
1010.02A	SUPERCALC5 Software Package	Rev., 7/89	3910.52	DSXMIT2-VM User's Guide	New, 8939
1401.01R	International Access Directory October-December 1989	Rev., 8939	3918.09P	MARK*NET Access Directory July 1989-October 1989	Rev., 8926
2051.07	MARK 3000 User's Guide, all 10 volumes assembled in binder	Rev., 8939	3920.07-1	NET*CONNECT User's Guide	New, 7/89
2051.07-1E	MARK 3000 User's Guide: 1. MVS Overview	Rev., 8934	3920.07-3	NET*CONNECT Enhanced PC Template	New, 7/89
2051.07-2E	MARK 3000 Service: 2. MVS Access Information	Rev., 8928	3920.07-4	NET*CONNECT Standard Template	New, 7/89
2051.07-3E	MARK 3000 User's Guide 3. MVS Security Features and RACF	Rev., 8934	3920.09	Managed Network Services Session Manager X.25 ACCESS Management Reporting Product Profile	New, 8930
2051.07-4E	MARK 3000 Service User's Guide 4. MVS TSO Commands & CLISTS	Rev., 8934	5070.81-4	The EDI*UPDATE, August, 1989	New, 8935
2051.07-6E	MARK 3000 Service: 6. MVS Programming Languages & Associated Tools	Rev., 8928	5075.09	BANCOR*EXPRESS Information Transfer and Tracking System Product Profile	New, 8935
2051.07-20E	MARK 3000 User's Guide Master Index	Rev., 8934	5075.11A-1	The BANCOR*EXPRESS System Client User's Guide	Rev., 8913
2051.75-1-1	SIM/PC User's Guide Supplement (V4.3)	New, 8935	5075.12A-1	The BANCOR*EXPRESS System Administrative Guide	Rev., 8913
3410.111-4B	QUIK-COMM to PROFS Service Installation, Administrative & Troubleshooting Guide for PROFS Users	Rev., 8928	5075.22	The BANCOR*EXPRESS System Product Information Pack	New., 8932
3410.145	QUIK-COMM Basic Product Profile	New, 8928	5078.00	TRADEWATCH Settlement Instruction and Reporting System Product Profile	New, 8935
			5078.01	The TRADEWATCH Settlement Instruction and Reporting (SIR) System Product Description	New, 8936
			5078.03	TRADEWATCH SIR Client PC Administrator's Guide	New, 8935
			5078.04	TRADEWATCH SIR Client PC User's Guide	New, 8935
			5081.07	FUNDSNET Balance and Transaction Reporting System Product Information Pack	New, 8939

INDUSTRY BRIEFS

Six consecutive years of global growth has escalated the value of world trade to a record high of \$2.6 trillion, according to a recent report prepared by The Conference Board. The expansion has been accompanied by rapid growth in world trade, an explosion in global financial markets, and an overall decline in the debt-to-exports ratio of developing countries, according to report author John Hein. As world trade continues to grow, Hein predicts a shift away from basic goods, such as iron, steel, and paper, to high-tech products such as electronics and telecommunications and consequently a leap by Taiwan and other Asian countries into the top ranks of world exporters.

Westinghouse Electric Corporation's Electronic Systems Group and Tandem Computers Incorporated are joining forces to design and market a variety of computer systems integration products and services. The two firms will work together to provide systems integration services, business planning, applications reengineering, and software development support services to the aerospace electronics and general manufacturing industries.

Quotron International, a wholly owned subsidiary of Citicorp, has won a contract to support the development and management of a London-based foreign exchange dealing settlement service called FXnet. FXnet, a limited partnership of subsidiaries of 12 major international banks, was created to reduce the risk and cost underlying interbank foreign exchange trading activities. FXnet developed the legal framework for netting by novation. This means that a computer keeps track of foreign exchange deals between any two counterparties during a given day and allows the two to settle their accounts by a single payment at the end of the day. According to Peter Bartko, FXnet chairman, "Increasing interest in our product from major foreign



exchange players in Switzerland, Germany, and Japan led the FXnet board to search for a single source supplier to provide the necessary global communications capability." Quotron won the contract over GE Information Services and Reuters.

IBM Japan is evolving a vision for the first half of the 1990s, which it will implement starting next year. The plan has a goal of 2,000 billion yen (\$1.38 billion) in domestic (Japanese) sales in 1995. This is twice that of the 1988 fiscal year. As a basis for maintaining its future growth, IBM Japan aims to strengthen business relations with its joint ventures and related firms by increasing the number of employees 1.5 times that of its current 23,000 by 1995.

Business information data base services in Europe will net in excess of 2 billion pounds Sterling in 1989, according to a report by Frost and Sullivan. By 1993, total revenue is expected to reach 4 billion pounds, with the U.K. retaining its position as the single largest market. The industry is facing a period of rapid change due to mergers and acquisitions, new entrants, and the challenge from VAN operators. The largest sector is real-time financial information.

British Telecom has bought McDonnell Douglas Corp.'s electronic data communications business, including its worldwide network, Tymnet, for \$355 million. British Telecom says it will integrate Tymnet with Dialcom, its U.S. data communications business, which specializes in electronic mail services. Analysts say that this is the latest step in the British company's strategy to expand into high growth markets outside the U.K. This acquisition will make British Telecom one of the leading providers of data communications services in the U.S. Tymnet also holds a 25 percent share of one of Japan's leading computer networks.

US Sprint has purchased the U.S. end of the PTAT transatlantic fiber optic cable system from Private Transatlantic Telecommunications Systems Inc. PTAT is the first privately constructed transatlantic fiber optic cable system connecting the U.S. with the U.K., Ireland, and Bermuda. In the U.K., the cable will be operated by Mercury Communications, a wholly owned subsidiary of Cable and Wireless, with whom US Sprint has formed an alliance to jointly develop and market advanced telecommunications services worldwide.

MILESTONES

Congratulations to the following employees who have celebrated service anniversaries with GE in May, June, July and August 1989.

Y E A R S

35

Robert Bruning
Rockville, MD

Gavin Bell
London, UK

Bernard Bounce
Brook Park, OH

Allan Boynton
Rockville, MD

Gwen Risinger
Rockville, MD

Bob Seedsman
Melbourne,
Australia

Karen Moats
Brook Park, OH

Loren Paulozzi
Brook Park, OH

Anthony Reddish
Brook Park, OH

Gerald Brown
Rockville, MD

Barbara Campbell
Rockville, MD

Steven Canale
Fairfield, CT

John McCormick
Rockville, MD

Gregory Morton
Rockville, MD

Robert Oprisch
Rockville, MD

Y E A R S

30

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Amsterdam,
the Netherlands

Bill Cafiero
Dallas, TX

Thomas Choate
Rockville, MD

Eugene van
Dorsselaar
Amstelveen,
the Netherlands

Y E A R S

15

Debra Baecker
Brook Park, OH

Rose Beck
Rockville, MD

Janet Bell
Rockville, MD

Joe Brady
London, UK

Priscilla Demilt
Rockville, MD

Michael Dubrasky
Rockville, MD

Jan Heuveling
Amsterdam,
the Netherlands

James Keough
Rockville, MD

Michael Lapinski
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William Lipton
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Sheila Martin
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Rayner Matthews
Rockville, MD

Stephen Ropelewski
Rockville, MD

Phyllis Shoemaker
Rockville, MD

David Slone
Rockville, MD

Robert Stolzenburg
Rockville, MD

Malcolm Sweeney
London, UK

Karen Voigt
Rockville, MD

Y E A R S

10

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Rockville, MD

Phyllis Bagdonas
Rockville, MD

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Brussels, Belgium

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Rockville, MD

Jessie Brooks
Brook Park, OH

Robert Brooks
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Brook Park, OH

Joe Jones
San Francisco, CA

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Oak Brook, IL

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Ton Kuyper
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William Powell
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Subrahmanyam
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Brussels, Belgium

Michael Williamson
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Zeislmeier
Cologne, Germany

Y E A R S

20

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Y E A R S**5**

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Sabrina Blake Rockville, MD	Susan Fiege Rockville, MD	Joep Kruikemeier Amstelveen, the Netherlands	Barbara Phillips Rockville, MD	Robert Vaughn Rockville, MD
Ian Bullen London, UK	Wanda Ford Rockville, MD	Norbert Kugelmeier Cologne, Germany	Duncan Potter Nashville, TN	John Welch New York, NY
Dini Brussen Amstelveen, the Netherlands	Roberta Gallisa San Francisco, CA	Lars Morten Laache Oslo, Norway	Thomas Rae Rockville, MD	John Wittenberg Rockville, MD
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