HSBC's Technology for Customers, Shareholders and Communities

Each year, the HSBC Group processes about 13 billion financial transactions — more than 35 million every day of the week. Yet only about 10 per cent of them require action by a member of its 253,000-strong workforce or one of its 9,800 offices worldwide. The overwhelming majority of transactions are originated by automated requests, direct access by corporate clients, direct payments, the internet or ATMs. HSBC's proprietary worldwide telecommunications network transmits the necessary data for these transactions on their way around the world in less than one-third of a second. In an increasingly competitive environment, the ability to provide this backbone for HSBC's financial transactions will enable HSBC to maintain its leadership position.

HSBC's global telecommunications network consists of more than 200 host computers and over 10,000 servers connected by enough fibre optic cable to stretch past the moon. HSBC houses these computers in paired facilities, known as data centres, in North America, South America, Europe and Asia. These power the world's local bank in 77 countries and territories. Since 1996, HSBC Group members have integrated over 120 regional data centres into 16 robust facilities. In the coming few years, the Group will migrate to just four pairs of state-of-the-art centres, serving each major region. The level of security and reliability HSBC provides to its customers is top tier compared with its competitors. The costs associated with this are in the lowest 25 per cent of all global banks as a result of these economies of scale.

The HSBC global telecommunications network underpins almost every business activity that the Group engages in across the world. It supports and links together more than 18,000 ATMs used to perform over two billion transactions annually for people across the globe. It underpins the HSBC global IT infrastructure which provides internet banking for our almost 20 million registered users, processes the purchases of 78 million credit card holders, and provides up-to-the-minute information on accounts, mortgages, loans and investments for telephone banking customers. And it runs sophisticated banking systems, such as HSBCnet, the Group's worldwide internet banking product; and WHIRL (Worldwide Household International Revolving Lending). These have been designed and developed by HSBC's in-house teams to provide unique services that commercial and personal customers are able to customise to their own requirements.

HSBCnet provides commercial and corporate and investment banking customers with unparalleled access to HSBC's global cash management, treasury and capital markets products. Customers can personalise the internet site to suit their own requirements, giving them round-the-clock access to their accounts worldwide.

The WHIRL system is a state-of-the-art credit card, private label finance, corporate card and instalment lending system. It supports some of the world's largest co-branded credit cards as well as the biggest and most successful private label finance partnerships. This software, with its advanced underwriting and risk management features, enables HSBC to create credit programs that promote sales and provide information to improve customer contact for the Group's merchant and manufacturing partners.

HSBC's annual technology spend of US$3.8 billion, together with a further US$670 million on IT capital expenditure, represents 15 per cent of the Group's total operating expenses. With data centres on four continents and software development teams in a dozen countries, HSBC provides employment for 20,000 IT professionals, two-thirds of whom work on developing new programs designed to make banking easier and more convenient for the Group's 110 million customers.

'Technology is a core competency of ours,' says Ken Harvey, HSBC's Group Chief Information Officer. 'Our technology enables us to do things on an international scale which most of our competitors cannot do, simply because they do not have the infrastructure and it would be too expensive for them to replicate it.'

The influence that technology continues to have on customer behaviour is profound. It makes possible banking activities that were inconceivable just a few years ago. As Alan Jebson, the Group Chief Operating Officer, puts it: 'Our technology allows our more sophisticated customers to do things they have not been able to do until now. On an international scale, we are better at this than anyone else.'

HSBC uses its technological investments to bring world class products and services to all its markets. Take, for instance, a simple credit card application in Mexico. A decision is forthcoming in less than two seconds after the button is pressed — and that includes the time taken by a computer in the UK to process the information.

On the other hand, an international businessman with bank accounts in New York, London, Paris and Hong Kong can use the internet to obtain real-time information on all four accounts, move money

Above: Back office operations support the high standards of customer service to which HSBC aspires around the world. HSBC's first Group Service Centre opened in 1996 in Guangzhou, southern China. HSBC Electronic Data Processing (Guangdong) Limited has just expanded to a second site nearby to cope with 4.8 million transactions each month and transactions growing in volume by some 135 per cent every year. Around 2,100 employees provide data processing and voice services, such as account maintenance, credit card and loan applications, and payments to HSBC branches in Hong Kong, the UK, Canada and the Philippines.

Inset: A satellite dish on the roof of a small island branch in Mauritius in the Indian Ocean provides a vital communications link to the bank's regional head office in Hong Kong, some 7,745 kilometres away. The dish transmits data to run all of HSBC's domestic and offshore banking operations in Mauritius. The largest on the island, HSBC's offshore banking unit provides its 4,800 customers located in over 50 countries around the world with foreign exchange, treasury, cross-border transfers, term deposits, trade finance and other services — via the satellite dish.

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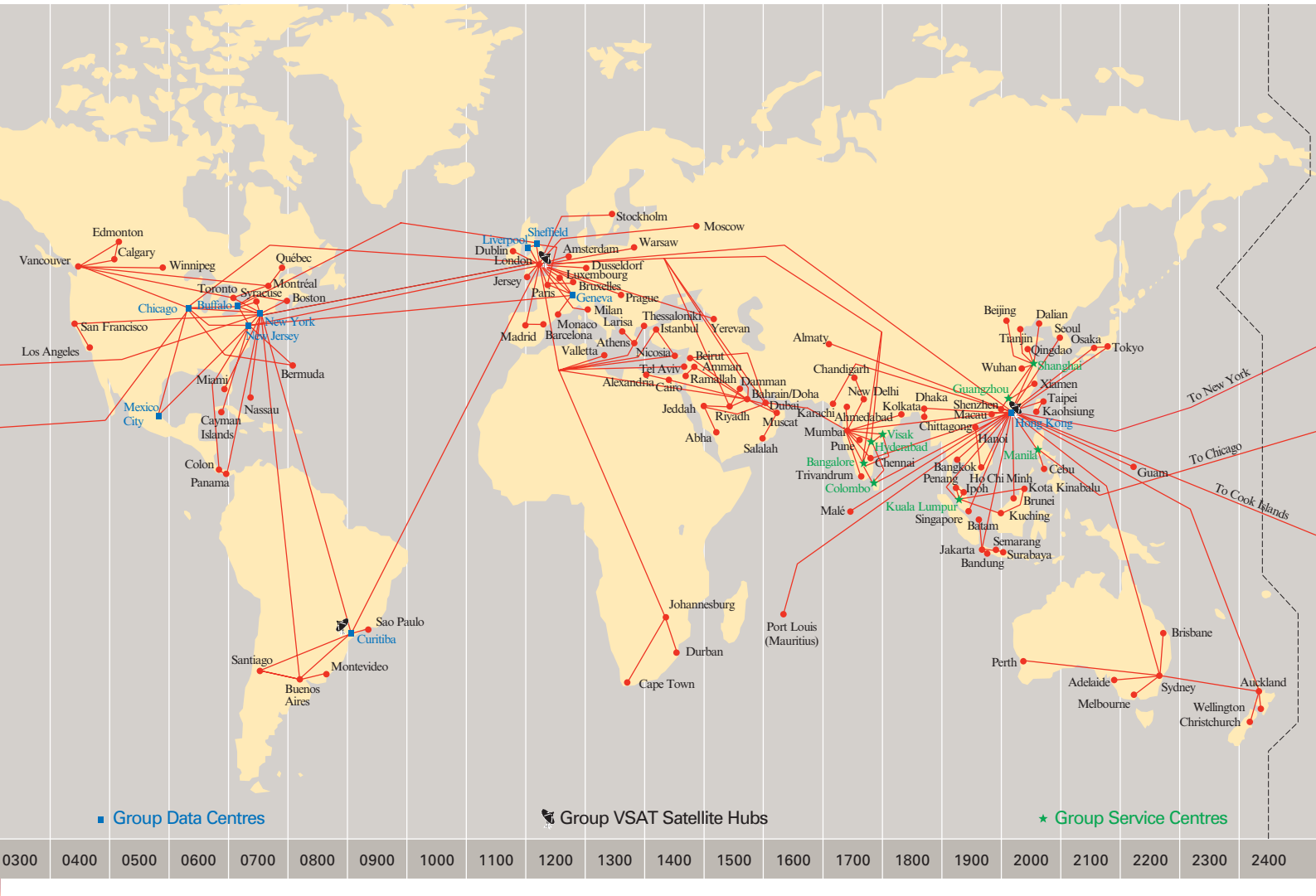

For a group of HSBC's size, with operations spanning the globe, an advanced global telecommunications network is key. The map shows the major arterial network routes linking important Group centres to support, among other things, counter service for customers in branches, self-service terminals, and back office processing or call centres. In essence, the inter-regional and international circuits of the network — comprising over 230,300 miles of mainly submarine fibre-optic cables — convey voice, data and video traffic worldwide.

between them, and conduct foreign currency transactions from anywhere in the world.

HSBC *Premier*, the internationally uniform service for the Group's most valuable personal customers, many of whom have financial interests in more than one country, offers them seamless access to banking services wherever they transact. Beyond foreign exchange and payments, HSBC provides credit, investments and banking services based on the knowledge the Group has accrued about customers in their home markets.

HSBC's extensive data about its customers' financial needs enables the Group to identify products and services that are most likely to be of interest to them. The CDU (Customer Data Utility) system, currently being introduced throughout the Group, is already operating in the UK, the United States and Brazil. It tracks virtually every HSBC banking transaction undertaken. With more than 20 million separate records, the UK CDU is accessed about 120 million times a day by the Group's many other IT systems to improve service to the customer. It means that HSBC staff are fully informed about the status of every transaction, regardless of whether customers have telephoned, visited branches or browsed online.

The acquisition of Household International, Inc. (now called HSBC Finance Corporation) in 2003 not only introduced consumer finance to the HSBC Group, it also brought with it formidable expertise in database analysis which has helped to make HSBC North America the industry leader in consumer credit modelling. This ability, coupled with the huge

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databases that HSBC owns, is used to find customers, match them with the right products and approve sales, all within a few seconds, using a process known as 'real-time decisioning'. For example, HSBC in the United States searches the entire adult population to match its products and services with appropriate customers. This precise targeting benefits the consumer and the bank as only those who would benefit are approached to bank with HSBC.

Commercial customers have benefited the most from HSBC's technological advancement. It has revolutionised the way many of them do business. Innovations have included FDOR (Futures Direct Order Routing), which currently enables clients to trade on 10 major futures exchanges from anywhere in the world. HSBC's newest product is an internet-based payments and cash management system that leads the industry in value and services. This system is in operation throughout Asia and is currently being introduced to European clients.

Major IT investment in the capital markets area of the business in 2005 and 2006 will see the implemention of the latest global systems in fixed income, equities, derivatives, settlement and e-commerce. This will lead to significantly improved, seamless customer service across the full range of HSBC's investment banking activities.

Not only is the HSBC global telecommunications network one of the largest of its kind, Alan Jebson believes that it is also one of the least expensive to operate, contributing in a real sense to the profitability of the Group.

'There has been a global decline in telephony costs,' Ken Harvey adds. 'The cost of long-distance data lines has decreased dramatically over the past seven years. While this trend has started to stabilise, we at HSBC will continue to show cost reductions as a leader in converging voice and data traffic. As more customers migrate to broadband internet access in their homes, they can take advantage of our internet services and simultaneously talk to a customer service agent through the net.'

Along with the many benefits brought by advances in technology came the new threat of computer crime. HSBC's own data centres in North America, South America, Europe and Asia are highly resilient to attack, but nowhere is the threat of computer crime perceived to be greater than on the internet. The growing importance of the internet is reflected by the number of registered users of HSBC's online banking services across the world, which increased six-fold in the 30 months to the end of 2004. The total number of HSBC customer log-ons in 2005 is likely to exceed one billion. Banks, in particular, have spent hundreds of millions of dollars to combat internet fraud. Beyond having one of the lowest loss rates of a major bank, HSBC's customers are assured that the Group has put measures in place to protect their information and assets.

'HSBC is diligent in providing a high level of security for our customers,' says Ken Harvey. 'We deploy the latest fraud detection and authentication technology available. This can occasionally frustrate customers and we have to be careful to balance security requirements against user friendliness, but the end result is that we have suffered smaller losses from internet and credit card fraud than our major competitors.'

Yet the battle goes on to find new and innovative ways to thwart the fraudster. For instance, HSBC is moving towards two-factor authentication in which access to online financial information will depend on something a customer knows, such as a password, and something he or she possesses, such as a liquid crystal display (LCD) token which will be tested in Hong Kong next June. Internet log-on will depend on entering the correct password along with a unique number displayed on the LCD token. However, this number changes every 60 seconds, rendering the password useless should it fall into the wrong hands.

A variation of this two-factor authentication, currently in use by HSBC in Brazil where mobile phones are particularly prevalent, involves the use of SMS (Short Message Service) texts as an additional security measure. During high-risk internet transactions, such as third party payments, the online banking system will send a PIN or password by text message to the mobile phone of the logged-on user, enabling the customer to confirm that the transaction is authentic.

The importance of technology to HSBC is immeasurable and growing. Technology delivers more control to customers who increasingly want the ability to manage their own financial affairs.

'In an increasingly competitive market-place, only those who can maintain the highest quality levels and achieve optimal scale will prosper,' says Ken Harvey. 'HSBC invests to deliver this scale and service to all our corporate and personal customers. All our products and services will be available to customers in the channel they choose — internet, branch, ATM or call centre. We value the customers for their global business and serve them with complete knowledge of the business they have entrusted to us.'

The South Yorkshire Group Data Centre is one of HSBC's most important nerve centres, supporting banking operations not only in the UK but also in continental Europe, the Middle East, Asia-Pacific, North and South America, and Africa — 24 hours a day, 365 days a year. Over 500 employees work at the 200,000 square foot, high security facility to run TV, internet and telephone banking, ATM networks, card services, First Direct and the UK branch network. At the heart of the nerve centre is 'the bridge' where a large, high tech 'video wall' *(top)* tracks statistics on telephone banking calls, flashes colour-coded system alerts to warn of problems, and monitors the status of HSBC web sites worldwide.