



Providing For Everyone

Providing the vital links

Via wireless communications

From the tallest corporate offices

To the remotest longhouses

Bringing access to the inaccessible

Making the world a smaller place

Providing for the people

Wherever they may be

By providing for everyone

Everyday, in so many ways

We're Opening Up Possibilities

MANAGEMENT

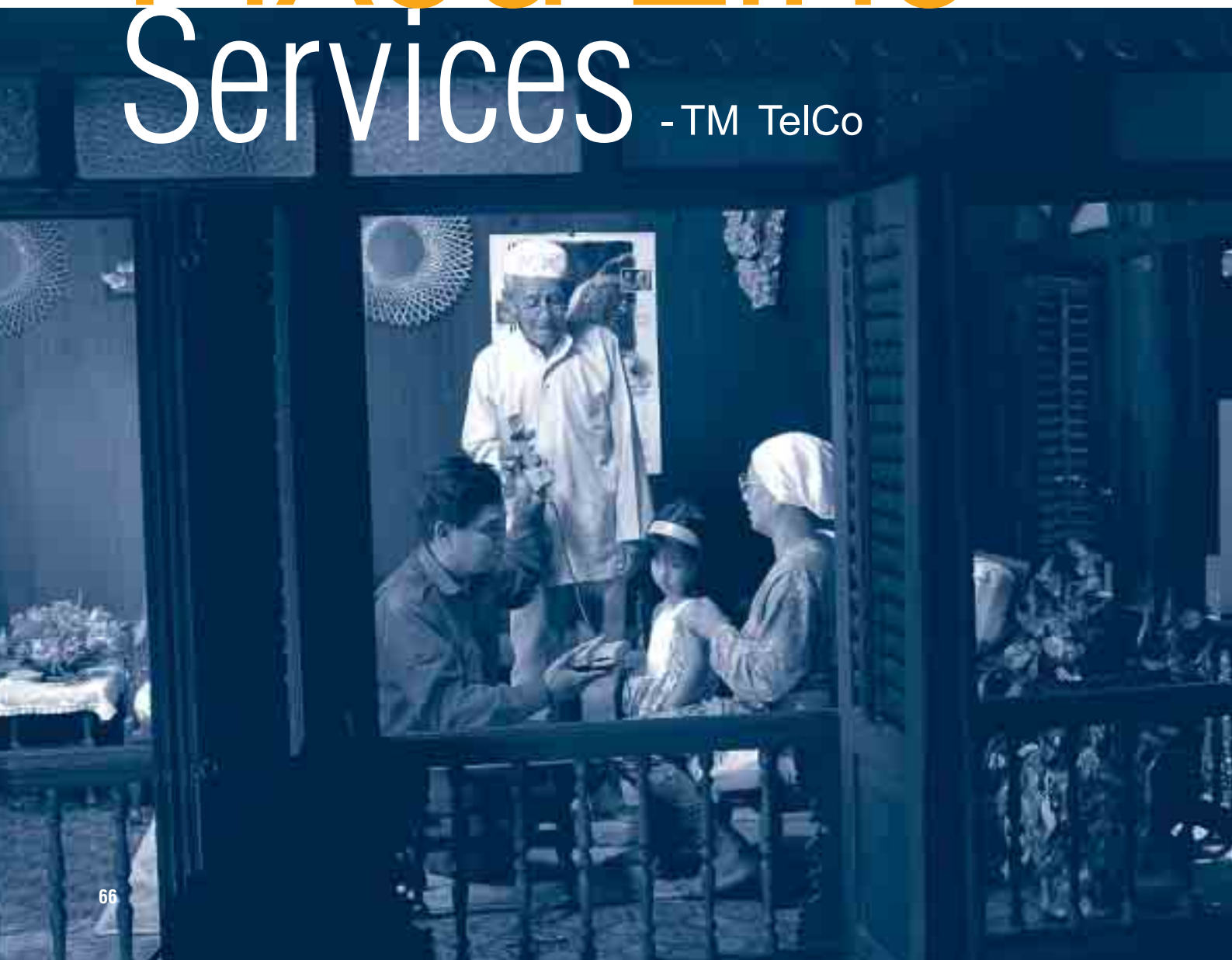
TM TelCo

DR. IDRIS IBRAHIM

Chief Operating Officer

operations review

Fixed Line Services - TM TelCo



Performance

TM TelCo is the core business unit of Telekom Malaysia and currently its main revenue contributor. The Company manages and operates fixed line telephony and data-based products and services. Malaysia's penetration rate of 19 telephone lines per 100 population is still relatively low and presents significant opportunities for growth.

Malaysia is gaining momentum towards achieving the aspirations of the Government for a knowledge-based economy and an IT-literate society. The year 2002 saw TM TelCo making inroads in improving its service delivery and playing its part in meeting the nation's objectives. However, the company continued to face increased competition, mainly from mobile and VoIP services. Nevertheless, there are still areas of potential growth in the data business as well as in value-added services and quality of services related to ICT applications.

Throughout the year, numerous products, awareness programs as well as operational task forces were created and launched as proof of TM TelCo's commitment to delivering and meeting the needs and requirements of its customers. The introduction of new products as well as the signing of major contracts with regard to future development were some initiatives taken to lay the foundations for continuing growth.

Being a market-oriented company, TM Telco had initiated tariff reviews in respect of both national and international calls in the year under review. Although the volume of calls has increased, the total revenue for voice services has dropped by 1.4% from the previous year. The data sector, however, has shown an improvement of 11.1%.

Total costs increased by 16.9% to RM2,948 million, mainly attributable to initiatives towards improving operational efficiency particularly in network quality, marketing tools and staff skills.

The customer base has reached a total of 4,593,300 of which 72.5% are residential lines while business lines accounted for the remaining 27.5%. Business customers had recorded an increase of 12,492. However, net customer base was reduced slightly due to attrition in residential customers.

The total number of waiters was improved by 29.4% from 90,650 in 2001 to 63,981 in 2002 due to implementation of FW CDMA (Fixed Wireless Code Division Multiple Access) in unserved areas.

IT literacy is on the rise.



operations review

In 2002, TM TelCo spent RM1,281 million on assets to develop and enhance its network. The bulk of the expenditure went to Customer Access Network, Transmission and Switching. To improve the efficiency of back-end support, TM TelCo spent RM278.8 million on non-network related assets, mainly in developing and enhancing end support systems for the benefit of the customers.

TM TelCo is continuously improving its network infrastructure. Hence, network migration to a New Generation Network (NGN) and Broadband continued unabated during the year, to provide higher capacity bandwidth capable to meet the demands of its customers.

The Company strongly believes that telecommunications and ICT will be the driving platforms for the continued growth and development of the nation's economy. As a responsible corporate citizen, TM TelCo actively supports regulatory requirements, Universal Service Obligation (USO) and Universal Service Provision (USP) and participates in the Government's Economic Planning Unit (EPU) programmes. The year 2002 was a satisfying year with regard to USP and the various government's initiatives as TM TelCo helped contribute in achieving the Government's aim of bridging the digital divide.

TM TelCo actively participated at both the management and working group levels for international projects such as IMT-GT (Indonesia, Malaysia and Thailand – Growth Triangle), BIMP-EAGA (Brunei, Indonesia, Malaysia and Philippine – East Asia Growth Area). The success of these groups will see improvements in the socio-economic standing of member countries as well as provide for better relations between Malaysia and its counterparts in the region.

Operations

Telephony

The focus of the year 2002 was on retaining the existing customers, getting new customers as well as increasing customers' traffic usage. As such, efforts were directed towards attractive product positioning and packaging.

The increase in sales of Prepaid Ring Ring Card and i-Talk, which offered very competitive call rates to selected countries via VoIP, helped offset the loss of revenues in National and IDD calls. This move indicates that TM TelCo is developing a strong foothold and alternative business to expand its fixed line services.

FW CDMA, a new wireless technology introduced in 2002, has recorded a customer base of 42,192. This technology will be used to attract and reach new customers in the near future. In addition, Telesiswa (collect calls), which was renamed Callpoint during the year is poised to generate greater usage among the customers.

Broadband Leased Lines (BLL)

BLL is a very high bandwidth digital circuit connectivity with speeds of 4 Mbps to 155 Mbps and is fully managed end-to-end, riding on the state-of-the-art Digital Data Network (DDN) platform. So far there are 11 subscribers from among multinational companies (MNCs).

Integrated Services Digital Network (ISDN)

The promotional campaigns on ISDN, especially TM ISDN Promo 2002, have contributed to both customer and revenue growth. The ISDN revenue for the year 2002 was RM170 million as compared to RM153 million in the previous year.

Digital Leased Lines (DQ)

DQ is an advanced, managed and secure network that offers high-speed connectivity between Headquarters and remote offices with data transmission speeds of 64 kbps, n x 64 kbps up to 2 Mbps. This service has been offered to existing analogue leased line subscribers to improve their service quality. There are also special pricing packages for retail and wholesale customers and promotion packages named "Connect 4 Promotion" to promote and make the digital leased circuit services more attractive and affordable.

COINS (Corporate Information Superhighway)

COINS, available nationwide, is a globally connected data communications network that supports multimedia applications, networked computing and communications. It is a fast and open multimedia network, employing the latest technology using DWDM (Dense Wavelength Division Multiplexing) with a huge capacity of 40 Gigabits per second. It consists of different access channels including ATM, Frame Relay and IP. A special package for the domestic COINS VPN (Virtual Private Network) service was introduced on 1 September 2002 targeted at major and small business customers. Revenue from COINS for the year 2002 is RM160.1 million compared to RM105.0 million in the previous year.

Myloca

Myloca is Telekom Malaysia's total data hosting and recovery solution, ensuring round-the-clock data availability and integrity. The centre provides services such as IDC (Internet Data Centre), Telehousing and BC (Business Continuity) as outsourcing alternatives that can help reduce customers' IT costs.

Global Services

Global Frame Relay is the ideal solution for international Wide Area Network connection. With a fully-managed global network and extensive reach, it acts as a digital nerve centre for businesses around the world.

Global Asynchronous Transfer Mode (ATM) offers an organisation the flexibility and simplicity of managing high-speed networks across the globe with speeds of up to 155 Mbps and highly secured global network. It is able to meet the rigorous demands of bandwidth and multimedia applications.

International Private Leased Circuit (IPLC) is designed to fulfill the demands of a privately-owned secure global network between dispersed locations at exceptional high speeds. It is a dedicated point-to-point leased service between various business premises around the world, and provides the best platform for global private networks.

VoIP Clearinghouse for voice and data was established as a major step towards achieving the goal of becoming a global hub of information communications. TM Clearing House (TMCH) was designed to serve as a single point of contact to originate and terminate calls worldwide. It provides among others, billing and settlement for its members, financial accounts management, settlement of accounts and credit risk assessment between carriers, bandwidth and IP access provision and other value-added services, including global roaming and messaging. It also acts as a single point of contact for termination of telephony minutes regionally and globally.

TMCH offers customised packages for Start-up, Established and Corporate members with a 3-tier volume scheme. It exploits existing bilateral relationships (currently to 59 countries and 78 1st tier carriers) and wholesalers. The arrangement enables TMCH to enjoy large-scale exchange of telephony minutes via both PSTN and VoIP.

CUSTOMER SERVICE

TM TelCo strives to improve customer satisfaction by cultivating a customer-focused culture within the Company. It also subscribes to excellent customer service by producing innovative, customer-oriented products. Departments/units such as Customer Assistance Service (CAS) were strengthened to tackle customer-related issues.

Currently all Call Centre Businesses and the Operator Assisted Services are ISO 9002 certified. Most services achieved the predetermined target as depicted in the table below.

Response time within 10 seconds							
Services	108	101	104	999	Telesiswa	1050	103
Achievement 2002	97.5%	97.7%	96.8%	98.1%	73.9%	95.8%	89.8%
Achievement 2001	95.8%	95.3%	96.0%	98.0%	83.0%	89.1%	88.2%

operations review

TM TelCo endeavours to provide excellent service delivery with respect to the targets set in four key performance indicators namely Installation Time, Service Restoration, Service Reliability and Operator Assisted Services (100).

To ensure the required level of service excellence, TM TelCo sets the targets and measurements in accordance with the requirements set by the MCMC (Malaysian Communications and Multimedia Commission). The year 2002 was a successful year with respect to improved quality of service delivery. The year-to-date achievement of fault rate for year 2002 was 0.246, as compared to 0.014 recorded in the year 2001, which is well below the 0.5 target as set by the MCMC. With a fault rate of 0.246, it means that on average, each customer will experience one fault within a period of four years against the target of one fault within two years.

PRODUCT LAUNCHES

Managed BLL was launched in June 2002. It offers managed high-speed connectivity of up to 155 Mbps.

DSL was soft launched in September 2002 when TM Net Sdn. Bhd. launched tmnet streamyx services. It enables data communication at rates up to 100 times faster than current traditional modems and up to 50 times faster than ISDN over the same line as telephone service.

TM IP VPN was soft launched in November 2002. It is a secure managed site-to-site and remote wide area network solution based on IP Networking Technology.

iOFFICE was re-launched in January 2002. It is an integrated communication service via a dedicated portal (www.ioffice.com.my) that comprises PC Telephony Services, Unified Messaging Services (email, voice mail, fax mail, SMS), Directory Services and Internet Access.

SUPPORT

Network

TM TelCo's objectives in delivering excellent customer service and state-of-the-art products are well supported by an extensive network infrastructure in line with Telekom Malaysia's vision to be the communications company of choice.

We have been actively pursuing the centralisation of operations and maintenance activities in order to achieve maximum efficiency and cost effectiveness. A Network Operations Centre (NOC) was set up to ensure smooth implementation of switching and transmission networks. It resulted in the average switching system availability of 99.9992%, transmission area microwave system availability of 99.9980%, and fibre optic system availability of 99.9955%.

Telekom Malaysia's mostly fiber optic-based national and international network currently has the capability to provide high-capacity and high-quality global connections for Internet and other broadband services. Complementing the above, Telekom Malaysia has also introduced Very Small Aperture Terminal (VSAT) services for both domestic and international private network applications, international gateway projects and also for bridging the digital divide in the rural and remote areas.



*Convenience
from any location.*

The Company has also expanded international connectivity through the commissioning of three submarine cable projects. The Asia Pacific Cable Network 2 (APCN2) connects Malaysia with seven other countries in the Asia-Pacific Region, and provides the first-ever self-healing high-bandwidth optical-fiber submarine cable system. The SAT-3/WASC/SAFE cable system enables Telekom Malaysia to connect directly with new destinations in Africa such as South Africa, Ghana, Mauritius and Senegal at a cheaper cost per circuit. It also provides Telekom Malaysia with a diverse route to Europe. As the sole landing country in the Far East, Malaysia is well positioned to be a hub for African countries to reach the Asia Pacific and Oceania region.

Telekom Malaysia and 13 other international telecommunication carriers signed a MOU in Bali, Indonesia on 4 September 2002 for the SEA-ME-WE 4 cable system to be built on Dense Wavelength Division Multiplexing (DWDM) connectivity across South East Asia, Middle East and Europe. The Ready-For-Service (RFS) is expected in 2004.

Billing

Numerous steps were taken in the continuing effort to automate our operations to the highest level. DRMS (Disaster Recovery Management System), a software tool that facilitates effective management and monitoring of business continuance/disaster recovery activities, was developed to complement our Problem Management System and Network Monitoring System.

Through sound management, improved processes and quality initiatives, bill production improved during the year, and has shown to be consistently completed within two days with minimal errors recorded throughout the year. Complaints and issues continued to be handled through a complaint management system called SMART (Sistem Maklumat Aduan dan Resolusi Telekom). To date, there are about 2,500 Customer Service personnel using the system to handle complaints nationwide.

Through TMLinX, TM TelCo was able to collate payment data from various agencies that operate bulk payment collection and autopay services such as banks, financial institutions, credit card companies and state authorities, transmitted on-line from the agencies to the billing centre.

Another application system completed this year that helped to improve the revenue sharing settlement globally is INTACTS (International Traffic Analysis and Accounting System).



QUALITY INITIATIVES

To align with Telekom Malaysia's strategic focus on profitability, customer-centricity, operational excellence and employee excellence, TM TelCo has implemented several transformation programmes and action plans to blend its core values of uncompromising integrity, total commitment to customers and respect and care with Telekom Malaysia's Corporate Culture (owning the customers, teamwork, performance driven and innovativeness). During the year, Telekom Training College had completed awareness-training programmes on "Internalising Core Values" (ICV) for all TM TelCo divisions and staff. The year 2003 will witness the implementation programme for ICV.

The quality initiatives and programmes implemented in achieving the above strategic focus are TMBEA (Telekom Malaysia Business Excellence Assessment) and the ISO 9000:2000 standard.

MARKET SEGMENT

Major Business & Government

During the year, apart from maintaining the revenue stream of telephony services, the primary focus of the Major Business and Government segment was to acquire a bigger market share in data services and explore new business opportunities especially in providing total business solutions to corporate, major business and government clients and customers.

operations review

Focus was also given towards making Malaysia a communications hub in the Asia Pacific region by expanding Telekom Malaysia's business regionally and globally.

Consumer & Business

The Consumer & Business segment embarked on several customer management programmes including ISO Quality Standard Compliance Programmes at call centres. Four promotional packages were made available during the year, namely Pakej Ria Residen which targeted new housing estates, Pakej Mesra Rakyat for low utilisation areas, Pakej Business Plus for the business community and Pakej B – Sub Busy to ensure that no Internet users miss any incoming calls. A second line was also offered with free rental. The continued support given to the Haj Pilgrims through Tabung Haji has helped strengthen the excellent rapport with Tabung Haji and its very large customer base. The Malaysia Direct service has enabled the pilgrims to call home and the call charges borne by the numbers dialled in Malaysia.

SPECIAL PROJECTS

USP

Telecommunication projects in the rural areas continued to be the main agenda for the Government in bridging the digital divide. TM TelCo continued to participate actively in the projects initiated by the Ministry of Energy, Communications and Multimedia (MECM) and Malaysian Communications and Multimedia Commission (MCMC). In this regard, details of Telekom Malaysia's participation are as follows:

- i. Telekom Malaysia was awarded an MECM project to provide basic telecommunications and Internet services to 220 schools in various areas in Sabah and Sarawak. Valued at RM49 million, the project was successfully completed at the end of December 2002.
- ii. Telekom Malaysia submitted a proposal for a MCMC project to provide telecommunications services in USP-designated areas in Julau, Sarawak and Kinabatangan, Sabah. The pilot projects cover 10 sites in both areas, 2 have been completed in December 2002 and the rest will be completed in 2003.

As its operational efficiencies increase, TM TelCo will be more aggressive in bidding for USP projects in the future.

Revenue Assurance (RA)

The RA project comprises five initiatives relating to credit management, international settlement, data services, payphone and telephone official services. The project which began in April 2002, aims to rectify revenue leakages and gaps within various operating systems, processes and procedures.

Project implementation is divided into two phases:

- Phase 1 is mainly to identify the top 20% revenue leak.
- Phase 2 will operationalise the new processes and procedures, following the installation of an enhanced operating system targeted at the rest of the leaks.

Hubbing

As the future and potential growth in telecommunications in the global market unfolds, TM TelCo is gearing and realigning itself towards realising more revenue from global data businesses. Aspiring to be the Asia Pacific communications hub through the provision of global networking, Telekom Malaysia's long-term target is to lead the managed IP, data and voice markets in Asia Pacific and maintain a high ICT market share in Malaysia. Hubbing will attract significant traffic from all over the world, with the emphasis in the Asia Pacific region, thereby creating a powerful presence on a worldwide scale.

International Business Master Plan (IBMP)

TM TelCo foresees that the global telecommunications and information industries will pose intense competition in the years to come. The Company's objective is to raise its profile and obtain the maximum market share for the Asia Pacific region. To achieve the objectives set and position Telekom Malaysia as an industry leader in the Pacific-Rim region, the IBMP was developed to address critical as well as strategic planning issues. The creation and continuous enhancement of the IBMP is a crucial step in realising the aspirations of Telekom Malaysia. In this respect, the IBMP serves as the platform that spearheads Telekom Malaysia's venture as a player in the Asia Pacific region and ultimately as a player in the global market.

Prospects

TM TelCo will implement CRM initiatives beginning with system enhancements in stages in 2003. The goal of CRM solutions is to seamlessly integrate IT and business objectives into every area of the Company's operation that relates to the customer. In order to unlock the value of CRM and to fully realise its potential, the Company has adopted an implementation framework based on the interaction of cross-functional business processes derived from strategy development, value creation, multi-channel integration, information management and performance assessment.

Looking at the current and future competitive landscape, there is great potential in the wholesale market. Being an early player in the wholesale environment, TM TelCo has the unique opportunity to develop its wholesale skills and experience. The expansion of its wholesale business will allow TM TelCo to focus on revenue growth, cost containment and asset utilisation.

Wholesale will be introduced to licensed operators, traffic resellers, ISP and ASP operators, through differentiated wholesale packages of fixed facilities, products and services.

TM TelCo has also embarked on a new strategic approach to achieve customer excellence through the establishment of a newly dedicated Customer Service Unit. Customers are becoming more demanding in their requirements as their communication needs evolve. Thus, the Customer Service Unit acts, as a focal point to oversee these special and specific needs, to respond quickly to complaints and to exceed the expectations of customers.

The Company will continue to build on its initiatives in improving operational excellence as it enters another year of growth. Operational excellence will continue to be aligned with objectives towards increased profitability, customer-centricity, and employee excellence. The new company's vision will provide the glue in the culture transformation programmes and the impetus in the implementation of action plans rolled out in 2002.



**Box
Article**

BUSINESS NETWORKING

TM-IPVPN: THE NEW FRONTIER IN NETWORKING SOLUTIONS

As businesses expand and establish branches in geographically disparate locations, it is becoming increasingly important for these businesses to have a communications infrastructure in place to facilitate the transmission of important information. As an example, it is necessary for sales personnel to have access to certain client and corporate data while they are on the road.

In the early days, an extended enterprise required direct leased lines to build its own private network, which would connect two or more sites for secure data transmission. Although this increased the cost of doing business, it was considered a necessary expenditure which, in any case, provided a high return on investment by improving productivity.

Since 1991, when the first Virtual Private Network (VPN) was implemented through Frame Relay technology, more cost effective shared networking solutions became available for businesses. What VPN does in essence is to virtualise the leased line functionality through dedicated connections at the Service Provider Network. Businesses require these leased lines only for last-mile connections, thereby reducing costs. In Malaysia, Telekom Malaysia was the first service provider to provide Virtual Private Network solutions. Today, it has 142 customers using its COINS VPN.

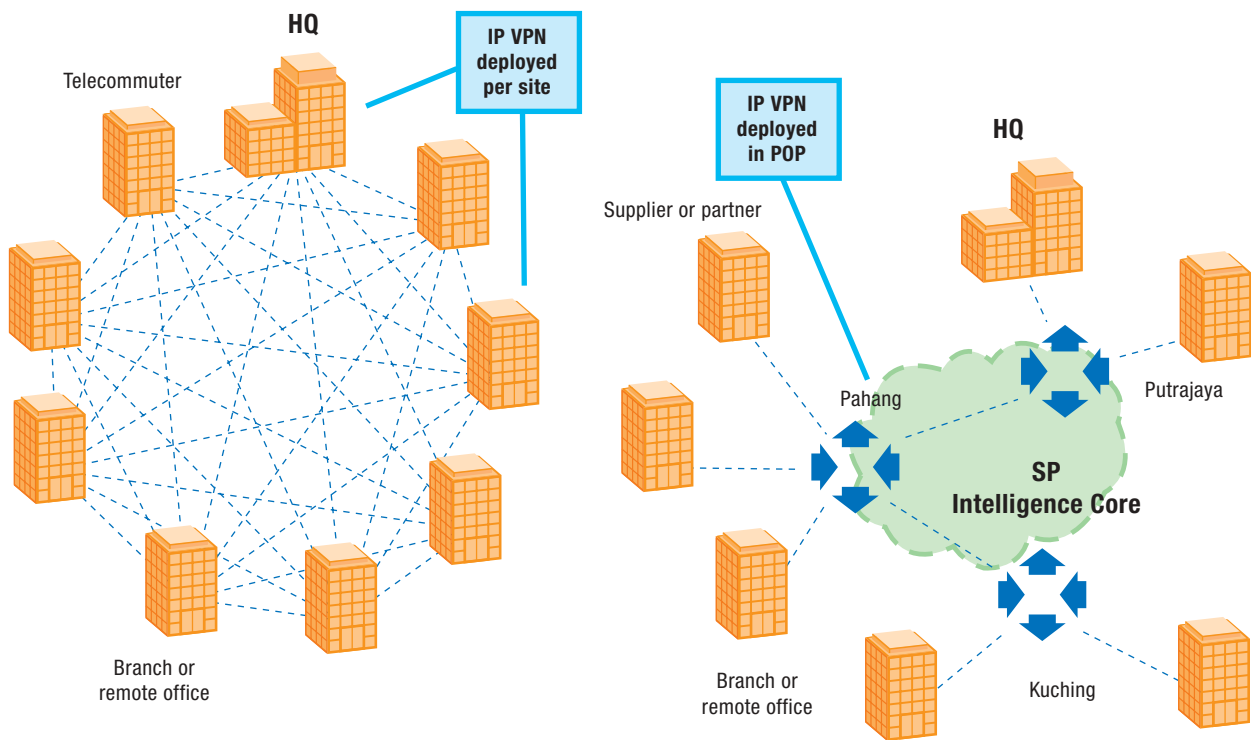
As the global outlook changes, so too does the outlook of the business manager. Currently, all businesses face the same situation of having to do more with fewer resources. Thus there is a need to increase productivity using new network communication tools and applications at a controlled cost. Fortunately for businesses, the landscape of shared networks has evolved drastically, with the growth of Internet, new security technology and increased usage of Internet Protocol (IP) based applications.

In 1997, work was under way to bring the advantages of Frame Relay technology to the IP network. At the time, IP was becoming increasingly popular as a protocol for applications. It was also believed that shared networking in an IP environment would be cheaper and more cost effective if done on the Internet. Thus IP VPN as a virtual networking solution was conceived.

IP VPN can be broadly defined as virtual connections between dedicated sites provided through the shared network of a public Internet or a private IP network. When it is provided through the public Internet it can be done through Internet Protocol Security (IP Sec) technology, which encrypts the data and tunnels it through the Net. This would appear to be cost-effective, but there are several drawbacks that may outweigh the perceived cost savings.

Since public IP VPN carries information across multiple and non-specified IP backbone infrastructures, there is no control on the end-to-end speed and quality since these are determined by a "best effort" basis. Scalability and management issues have to be considered too, especially when a large number of tunnels have to be managed in the Internet cloud. In addition, when organisations need to deploy business-to-business communications (Extranet) with suppliers, partners or vendors, the public IP VPN would require a public key infrastructure (PKI). Then, running voice and video traffic over the public IP VPN would be problematic due to the latency introduced by encryption and decryption.

Another type of IP VPN built on public Internet is based on Multiprotocol Label Switching (MPLS) technology, introduced initially to speed up routing operations. Since the year 2000, router technology has improved such that it no longer requires MPLS. But then, another use of MPLS was discovered. If it is implemented on an IP network, MPLS performs very much like a Frame Relay network. For some Internet Service Providers (ISP), this was a practical solution: why not provide VPN services on an IP network, which was already being used to run their Internet services anyway?



CPE-based VPN and Network-Based VPN

Private IP VPN is built on a private IP network, quite separate from Internet traffic. In this environment, the private IP network resources provided by the Service Provider are shared among the business community for the deployment of their own Virtual Private Network.

TM-IPVPN is based on a private Telekom Malaysia IP built with MPLS ATM on the existing COINS network of 622Mbps. This will be expanded soon to a pure IP intelligent MPLS backbone running on 10Gbps to cater for the growing business.

The Telekom Malaysia IP network can be accessed via any one of the following methods: Leased Lines, Digital Subscriber Lines (DSL), Very Small Aperture Terminals (VSAT), Gigabit Ethernet, Wireless LAN, Frame Relay, Asynchronous Transfer Mode (ATM), Integrated Subscriber Digital Network (ISDN) and Dialup PSTN. Users, therefore, have the flexibility of choosing the most cost-effective type of access for their purpose. In addition, users of TM-IPVPN enjoy guaranteed throughput level and minimal latency with fast and efficient transmission speeds. Telekom Malaysia is also able to move the built-in routing and firewall intelligence into its virtual private network. In the long term, Telekom Malaysia plans to introduce more value-added services that will enhance businesses' access to a cost-effective network.

TM-IPVPN is a hybrid network that is able to support two types of technology:

a) IPSEC VPN

In this technology, a secure and encrypted tunnel between enterprise sites is created using Internet Protocol Security (IP Sec) technology. This technology is usually implemented in a Customer Premise Equipment (CPE) based network and can be supported in both public and private IP networks. This technology is suitable for a small-scale enterprise network due to inherent scalability restrictions.

b) MPLS VPN and MPLS/BGP VPN

Multiprotocol Label Switching (MPLS) VPN also creates tunnels across IP networks, but currently has no mechanism for packet encryption like IP Sec. MPLS VPN traffic is isolated using a label similar to ATM and the Frame Relay Permanent Virtual Circuit (PVC), thus offers the same level of security as Frame Relay or ATM network services. Interception of any of these three types of traffic would require access to the Service Provider network. If additional security is required, traffic can be encrypted before it is encapsulated into MPLS using IP Sec.

Box Article

BUSINESS NETWORKING

TM-IPVPN: THE NEW FRONTIER IN NETWORKING SOLUTIONS

CHOOSING THE RIGHT IP VPN SERVICE PROVIDER

Before implementing an IP VPN, businesses have to carefully consider their business communication requirements. There must be a thorough understanding of the various VPN options available before an informed choice can be made which would best meet their individual needs. The following are some compelling reasons why TM-IPVPN should be the preferred choice.

Nationwide availability

One common business requirement is the ability at some point in the future, of expanding the size of the business network cost-effectively. TM-IPVPN meets this requirement with its extensive nationwide nodes and rich last-mile access infrastructure options. Having a service provider that has extensive reach covering the

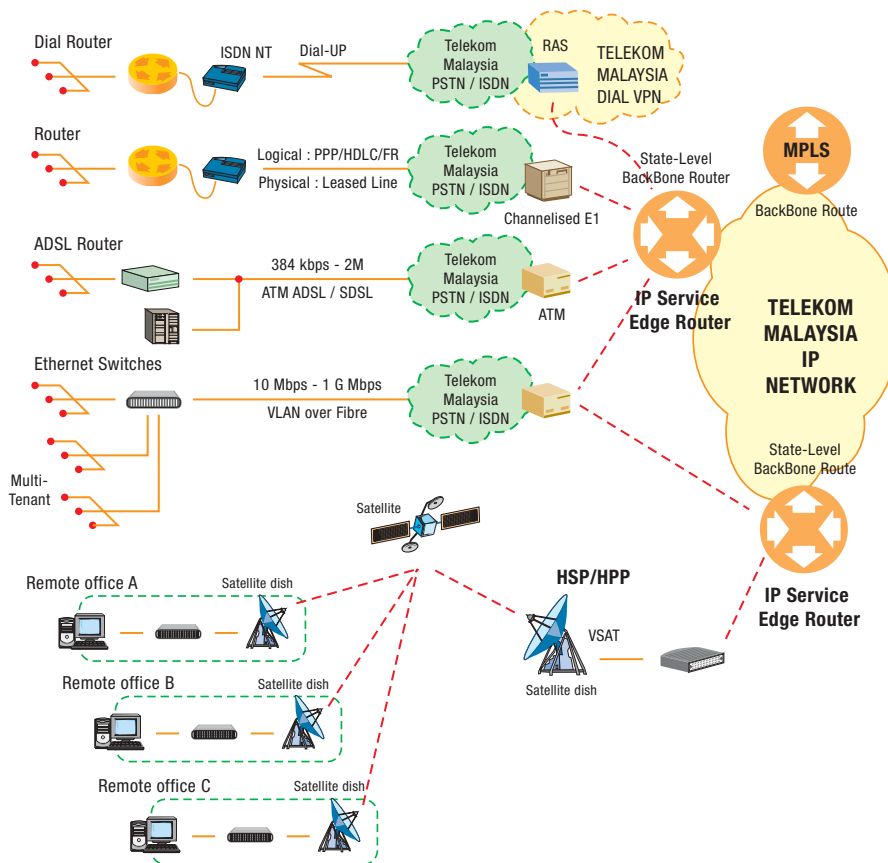
whole of Malaysia reduces your operational and capital expenses when your business grows.

Efficient use of bandwidth

By virtue of being connected to the IP network, TM-IPVPN customers have access to various services such as Intranet, Extranet and Internet, without having to pay for these.

Security

There are many attractive features in an IP VPN. But according to a report published by IDC Market Research WAN Manager Survey 2001, what most companies look for is security. Security is not an issue with TM-IPVPN since it is a private network. As an added feature, TM-IPVPN also supports IP Sec technology if the customer requires end-to-end encryption. TM-IPVPN utilises the



concept of perimeter security implemented through a firewall that resides at the edge of the private IP network. This firewall can be used by the customer as double protection on top of its own firewall in its premises. This feature will protect the customer's network from backdoor access through the Internet. For Extranet connectivity, TM-IPVPN provides Network Address Translation to ensure security and privacy between business entities. Telekom Malaysia has put much thought into the security features of TM-IPVPN, saving customers the time, effort and money of having to supplement it with additional security measures.

Route Diversity

TM-IPVPN supports mesh topology within the service provider network rather than individually specified topology. Mesh topology provides natural route diversity, allowing for fast and easy interconnections while providing the required redundancy. Alternative diversity in the form of ISDN backup to the headquarters, or an ISDN route to the IP network, is also available if required. Given these measures, organisations can rest assured that their communication will not be disrupted, thus allowing them to save on operational expenditure.

Prioritisation

In competitive environments, organisations introduce new applications with unfamiliar properties that may utilise higher bandwidths, resulting in mixed applications. In such situations, organisations must give priority to mission-critical applications such as Citrix, ERP and SNA over IP-based applications that are non-mission-critical. If not, the non-mission-critical applications may burst and consume most of the available bandwidth. Recognising this, TM-IPVPN provides prioritisation features which once again help businesses save on operational and capital expenditure in the long term.

Shared knowledge

As more enterprises are moving towards client servers and business critical applications such as Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM), they can connect employees from other branches to headquarters for access to critical information to assist them in purchasing parts or even in inventory maintenance. These cost-saving measures double as tools with which employees can access information as and when required. Further, decision-making will be easier and better as a result of information-empowered employees.

Organisational effectiveness

TM-IPVPN allows you to transfer large files to other branches with ease, thus saving on time and money while also increasing productivity. For example, a design firm can transmit large files to its branches without using expensive and time-consuming couriers to physically transport the documents.

Remote working

Using this, the mobile or remote worker can access the corporate system for important information from any location. It also allows a mobile sales force to access the company's CRM system. Enabling them to retrieve customer profiles enhances service efficiency which in the long run will increase business agility and performance.

TM-IPVPN also offers the flexibility required to adapt to rapidly changing business conditions, such as an increasing or decreasing workforce size, plus also helps to get new branches going.

SERVICE OFFERINGS

TM-IPVPN currently offers four types of services – Managed Intranet, Managed Remote Access, Managed Extranet and Managed Security Services.

1. Managed Intranet

This provides clients with flexible and cost-effective solutions allowing for secure intra-company communication between corporate and branch offices. Companies can better control their costs and manage geographically dispersed locations by outsourcing the function to Telekom Malaysia leveraging on its private backbone. Telekom Malaysia's managed solutions allow for fully-meshed and access technology-independent connectivity to its clients.

2. Managed Remote Access

This provides clients with a flexible and cost-effective solution for managing increased demand for secure communication between the corporate office and road warriors, telecommuters and small offices. Access technologies in use today include dialup, DSL, wireless and cable. Telekom Malaysia supports dial access over PSTN (using the COINS Dial VPN service) and, in future, DSL access.

3. Managed Security Services

This provides clients with a cost-effective solution for managing their security and connectivity requirements. By meshing the client's own network personnel with third-party security specialists, the client will have truly comprehensive security at all levels of IT, from the network level up to the application layers. Collaborating with a security service provider gives a client both depth and breadth of security tailored to meet its specific needs. For a start, Telekom Malaysia offers managed firewall solutions, designed to meet the perimeter security requirements of both small-to-medium and large businesses. Telekom Malaysia's solutions include Packet Filter Firewalls and Stateful Inspection Firewalls.

4. Managed Extranet

Extranet VPNs enable businesses to be more closely connected to their suppliers, distributors and customers. This service is a combination of all the above services.

Maximising Mobility

*From one place to another
Connected we remain*

*Through short messages we share
The joy of laughter and happiness*

*From m-commerce to m-banking
Mobility delivers convenience*

*The freedom of mobility
Facilitates productivity*

*By maximising mobility
Everyday, in so many ways
We're Opening Up Possibilities*





MANAGEMENT

TM Cellular Sdn. Bhd.

**DATO' DR. IR. MOHD
KHIR HARUN**

Chief Executive Officer

operations review

Cellular

- TM Cellular
Sdn. Bhd.

Performance

TM Cellular Sdn. Bhd. (TM Cellular) is the provider of the digital cellular network, TMTouch, which operates on the Global System for Mobile Communications (GSM) technology. This technology is based on the 1800 frequency spectrum which offers benefits such as greater security, better coverage indoors and outdoors, superior speech quality, clearer transmission, greater capacity and data transmission capabilities.

During the financial year under review, TM Cellular's revenue grew by 7.5% to reach RM1.164 billion compared to RM1.083 billion the previous year. A major contributing factor to this growth was the increase in the number of prepaid subscribers. For the financial year 2002, TM Cellular turned in a profit before tax of RM10.4 million (excluding waiver of shareholder loan), marking a remarkable turnaround from its loss-making in 2001.

Operations

There was an increase in the number of TMTOUCH prepaid subscribers in 2002, registering more than one million as at 31 December 2002. This represents an increase of more than 160% from just under 400,000 prepaid subscribers in 2001. This is in line with the Company's strategy of making the prepaid segment the dominant service. This has been achieved through creating more value for customers, enhanced by attractive consumer campaigns and competitions.

During the year, several attractive packages were introduced to attract quality postpaid customers and to stay on par with market offerings. Towards this end, new plans and innovative packages were developed to complement existing ones and to cater for changing market demands. Extensive research and measures were also taken to foster closer relations with existing corporate clients.

In the year 2002, TM Cellular practised a cautious approach in terms of acquiring new postpaid customers, concentrating instead on customer retention, collection and increasing the average revenue per user (ARPU). As such, the postpaid segment showed a decrease of 32.0% from the previous year. Steps were also taken to revise the subscriber registration policy and the dealers' incentive structure.

In a continuing effort to improve customer service, in the beginning of 2002, TM Cellular launched Best Practices – a set of guidelines for TMTOUCH Service Centre staff, which also outlines the right conduct and presentation when staff deal with customers.

In an endeavour to enhance the Company's partnership with its dealers and principals, a TMTOUCH sales campaign, Cash Odyssey, was launched in Johor Bahru in April 2002. The sales campaign came complete with a new package of incentives for dealers. This was followed by the TMTOUCH Escapade sales campaign, launched in Sabah in the second quarter of the year.

Currently, TM Cellular offers specially designed packages such as the Millennium Plus, Touch Extreme and Touch Premium. The different packages offer distinct features for a diverse profile of users – ranging from heavy users to those who rarely make calls but are always on the receiving end.



Launching of the prepaid mobile special edition.

operations review

A vast range of mobile offerings.



In a move to be on par with other cellular providers worldwide, TM Cellular strives to stay in tune with the ever-evolving cellular technology. For the year 2002, TM Cellular took the lead in demonstrating the Multimedia Messaging Service (MMS) at the Asean Communications and Multimedia Exhibition. TM Cellular's MMS enables users to view items prior to purchase, such as cars or handphones. For executives and business users, TM Cellular's MMS means that business reports, charts and graphs can be transmitted directly from a PC or notebook to a mobile phone, or between mobile phones. TMTOUCH subscribers who intend to use this service require an MMS enabled mobile phone and a GPRS SIM card.

Another mobile-commerce service introduced by TM Cellular was the Mobile Banking and Payment Via Secure SMS, which allows consumers to conduct banking transactions via their cellular phones. This exemplifies TM Cellular's commitment to continuously develop cutting-edge products and applications that suit the demands of today's users; and to bring the latest developments in cellular technology to its subscribers.

Besides International Roaming and value-added services such as the TMTOUCH 600 Info Access Call Waiting, TM Cellular has introduced a wide range of SMS based products and services that increase customer convenience and serve to capture the growth potential of this very lucrative platform. TM Cellular currently offers a suite of 14 SMS services, including:

TMTOUCH SMS Info Stock

Displays the latest information on the stock exchange and helps subscribers monitor their investments.

TMTOUCH Mood Swingers

Offers a range of more than 1,000 ring tones and logos that can be downloaded.

TMTOUCH SMS Summons Checkpoint

This collaboration between TM Cellular, Polis Diraja Malaysia and Telekom Applied Business Sdn. Bhd. allows subscribers to check for traffic infringement summons.

TMTOUCH YAHOO! Messenger

In partnership with Yahoo!, this service enables users to communicate online, without a personal computer. TMTOUCH subscribers can send, receive and reply to instant messages online.

SMS KLIA Flight Info

Enables subscribers to check the arrival and departure times of domestic and international flights at KLIA.

TMTOUCH SMS Bill Info

Allows subscribers to check their bill summary and payment history via SMS.

TMTOUCH SMS Soccer Alert

Keeps subscribers in touch with results of their favourite soccer leagues and tournaments, even as the matches are being played.

TMTOUCH SMS UPU Service

Enables subscribers to check the status of their enrolment to local universities through Unit Pusat Universiti (UPU).

check the status of their application by providing their IC number, company's registration number or just the name of the company.

TMTOUCH Basis Checking via SMS

Allows authorised TMTOUCH dealers and vendors to check potential customers against a blacklist, prior to registration.

TMTOUCH JPJ SMS Renewal Status

Enables subscribers to check on the validity of their road tax and driving licence directly from JPJ via SMS.

TMTOUCH SMS Weather Info

Allows subscribers to check the daily weather forecast.

TMTOUCH Iman

A special service providing access to features like Islamic ringing tones and picture messages. Besides that, it also offers an Islamic directory such as prayer times, qiblat finders, a list of mosques and halal restaurants worldwide.

TM Cellular also undertook various special projects during the year, one such endeavour being the successful implementation of DATATOUCH (data warehouse application) catering to prepaid subscribers. DATATOUCH is currently undergoing function enhancement to expand its scope to both prepaid and postpaid subscribers. New features are being incorporated which are expected to be launched in the first quarter of 2003. DATATOUCH will enable TM Cellular to understand the trend of current and future subscribers and their requirements for effective product development and marketing campaigns, thereby supporting the Company's overall business growth.

TM Cellular has also begun upgrading its Customer Contact Management System infrastructure, to improve its capacity and allow for new self-service features. The exercise is 90% completed and targeted to be launched by the first quarter of 2003.

On the billing front, TMTOUCH customers no longer have to face long queues at payment counters because its Service Centres are equipped with the Automated Payment System. The system was successfully implemented nationwide in February 2002. To complement the Billing System towards better customer service, TM Cellular also linked all the service centres to the headquarters via COINS. This was completed in November 2002.

In addition, automatic reconnection was implemented in June 2002. This ensures that TMTOUCH customers' lines and services are re-activated automatically after being barred, once the due payment has been received.



TMTOUCH – SMS Yellow Pages.

TMTOUCH SMS Yellow Pages

Facilitates instant access to Yellow Pages information via SMS.

TMTOUCH SMS Share Application

An SMS info-on-demand service that gives subscribers access to the latest results of Initial Public Offering counters as listed by the Kuala Lumpur Stock Exchange. It also enables subscribers to

operations review

In the move towards Mobile Banking and Payment Via Secure SMS, TM Cellular sealed various agreements with local and regional partners such as SMART Money Holdings Corporation (Philippines), Sonera SmartTrust AB and Prism Transactive (M) Sdn. Bhd. in the second half of the year.

TM Cellular also cemented a deal with ACeS Philippines Cellular Satellite Corporation and APAC ACeS (Malaysia) Sdn. Bhd. on 22 October 2002, to provide satellite telecommunication facilities. This will enable TMTOUCH subscribers to communicate via satellite phone, especially in areas that lack basic telecommunication facilities and infrastructure.

The agreement involves satellite airtime reselling and supply of network infrastructure for satellite communications between the satellite phone service run by Smart Communications Inc., ACeS Philippines Cellular Satellite Corporation and TM Cellular Sdn. Bhd., with APAC ACeS (Malaysia) being the terminal supplier for the service.

Among other major activities, TM Cellular was the Official Cellular Provider for the Seventh Conference Of The Ministers of Endowments and Islamic Affairs, held in May 2002. On the sporting front, the Company was appointed as the Official Cellular Provider for the Telekom Malaysia Le Tour de Langkawi 2002 for the second year running and for Sukan Malaysia IX 2002, Sabah (SUKMA). In addition, TM Cellular was the title sponsor for the TMTOUCH Japan GT Championship Malaysia, which was held in

Selangor from 21-23 June 2002. In conjunction with the event, TMTOUCH subscribers were able to download logos and designs of GT cars on their handphones.

In 2002, TM Cellular appointed a one-stop agency through the TPA (Tenureship Partnership Agreement), an agency which will act as an intermediary between telcos and relevant local authorities to plan and legalise all Base Transceiver Station (BTS) structures as well as co ordinate the building of new ones. During the course of the year, TM Cellular signed various MOUs on the leasing of BTS structures with subsidiaries of the Terengganu, Pahang and Sarawak State Governments.

On the industry consolidation front, Telekom Malaysia and Celcom Malaysia Berhad (Celcom) signed a Conditional Sale and Purchase Agreement on 28 October 2002, for the sale of TM Cellular to Celcom. The total purchase consideration of RM1,684.0 million will be satisfied by the issuance of 635,471,698 new Celcom shares at RM2.65 per share. Upon completion of the transfer, Telekom Malaysia's shareholding in Celcom will increase from approximately 31.2% to 47.9% of the issued and paid-up capital of Celcom.

The signing will clear the path towards a full merger of Celcom and TM Cellular, thus fulfilling Telekom Malaysia's objective of becoming a leading mobile telecommunications services provider in Malaysia. The resulting entity will see a combined subscriber base of over three million customers and a leap in market share to approximately 42%.

This momentous exercise is expected strategically to improve the position of the enlarged entity in the high-growth mobile market. Even on the technology and network coverage alone, there is excellent fit. On the GSM standard, the business combination provides the combined entity with the best of both platforms – the GSM 900 platform, which is good for covering large areas; and the GSM 1800, better for coverage in densely populated areas.

The two entities have embarked on a planned process to integrate their operations. As an example, at the end of 2002, they rolled out the Joint Domestic Roaming Service and the Cross Bill Payment convenience for their combined customer base.

The first phase of the Domestic Roaming was announced by Y.B. Datuk Amar Leo Moggie, Minister of Energy, Communications and Multimedia, on 14 October 2002. This is the first seamless domestic inter-network roaming service in the country.



TM Cellular – Title Sponsor of the Japan GT.



Prospects

The Company is looking to increase its subscriber base and ARPU; and at the same time improve its capital and operational efficiency. TM Cellular is planning to focus more on profitability, in line with industry operating parameters; operating efficiency; and on being the Best In Class for Customer Service and Network Quality.

On the integration front, after receiving the relevant regulatory approvals, both Telekom Malaysia and Celcom have sought and obtained the approval of their respective shareholders for the transaction.

It is the aim of the integration process to create better value and benefits for customers. The Joint Integration Steering Committee, comprising Telekom Malaysia, Celcom and TM Cellular senior management, was established to guide and plan for a smooth integration of both entities. The Integration Masterplan will be implemented over an 18 to 24-month period and will look at areas such as infrastructure, network, customer touch points and human resources.

TM Cellular will leverage the integration with Celcom to offer, ultimately, 95% coverage nationwide. In addition, when the two businesses are integrated, a broader range of products and services, including customer service, will be made available. TM Cellular is also planning to conduct in-depth research on customer behavior in preparation for the integration.

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ONLINE TRANSACTIONS and **MOBILE BANKING**

ONLINE TRANSACTIONS

While the dotcom bubble was still fast-expanding in the late-1990s, marketing gurus and industry experts were all harping about the e-commerce revolution. E-commerce promised to give the consumer maximum choice at lower prices, increased competition, reduced distribution costs, so on and so forth. Triple-digit growths were forecast. There were more clever business models, smart people and general optimism than there was actual business.

Five years on the world has become much wiser. Today, everyone can see the myth from the money. This is not to say that e-commerce has failed. Far from it, e-commerce continues to grow and gain adherents. US online sales grew by 34% to US\$47.9 billion (RM182 billion) in 2002. As such, e-commerce is not a failure. It's just not growing at the interstellar rates predicted earlier. There is, however, one segment of e-commerce that is growing at astronomical rate – online transactions.

ONLINE TRANSACTIONS IN MALAYSIA

E-commerce is defined as “buying and selling information, products and services via computer networks”. In other words, making transactions online, which, according to statistics, is being readily assimilated into the Malaysian culture, although such transactions do not necessarily end in sales. While only 15% of Malaysian Internet users have bought things online, it is estimated that about 30% of the same group make use of online transaction facilities.

This pattern is in sharp contrast with the US experience, where 70% of Internet users buy online but only 33% use online transaction facilities.

Perhaps the most well-known Malaysian online transaction destination is www.maybank2u.com. Since the service was launched in June 2000, it has logged over 16 million transactions with a registered customer base of about 700,000. A study on online banking found it attracts a more diverse group of Internet users than other financial activities, such as buying or selling stocks online, or even seeking financial information online.

By far, the most popular online transaction activity in Malaysia is the payment of bills. And banks and other online transaction agents recognise this. Maybank2u.com, for example, has 342 partner payee companies to date. Relatively speaking, the adoption of online banking in Malaysia is nothing short of phenomenal, even when compared that in the US which, incidentally, has grown an impressive 164% in the past two years.

So what is it about online transactions that appeals to the unique psyche of Malaysians?

WHY MALAYSIANS TRANSACT ONLINE

In general, consumers conduct online transactions for the following benefits:

1. Convenience
2. Speed
3. A tool to improve control over finances
4. Private interaction (as opposed to talking to a counter clerk)
5. Availability of information
6. Perceived or real savings

People who conduct transactions online also tend to have higher levels of income and education. Males are found to be more likely to transact online. Plus, users tend to be younger.

Just about every major bill (and a lot of “minor” ones) can be paid online, including that for your phone service, electricity, water, TV, credit cards, municipality fees, insurance, membership fees, ISP, and loans.

While the payment of bills online is not likely to replace over-the-counter transactions completely in the short-term, the trend definitely points to that direction. Already, Pos Malaysia, the country's most ubiquitous bill payment facilitator, is updating and streamlining its operations to be web-enabled.

MOVING FORWARD

While the payment of bills appears to have a firm and probably permanent foothold in online transactions, it is by no means the only kind of online transaction available to customers.

Online banking activities such as enquiries, the transfer of funds and management of personal accounts are already available to Malaysians. It is probably only a matter of time before these and other online transaction activities really catch on in Malaysia.

All this is good news for full-service Internet Service Providers like TM Net. TM Net seeks to provide the means for Malaysians to move forward on the Internet. At present, TM Net provides the following facilities for consumers who wish to transact online:

TM Net Internet Access: either through Streamyx or Prepaid, both affordable means for people to get online.

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ONLINE TRANSACTIONS and MOBILE BANKING

Bluehyppo.com: this full-service portal is an ideal first- and one-stop place for consumers to transact online.

Netmyne: provides business solutions to enable businesses to take advantage of online transactions and other IP-enabled activities. Also a partner of all major local banks that are online.

Two key factors that will drive online transactions are convenience and confidence. Combining the convenience of mobility and Internet reach, with a secure payment mechanism, will see online transactions booming. This new line of potential will see communication companies being well positioned to tap the new source of revenue. However, to realise this potential, there will need to be speed and focus. Also, a number of service providers will be required as the processes and the supporting environment will transcend a variety of institutions.

The consumer segment is expected to be a major growth area. While online transactions between businesses will still be fraught with customised processes that require common understanding between providers and users, consumer demand will be created by the variety of services made available at the convenience of a touch. Till now, online financial services have been proven to be very popular. It is possible that entertainment facilities will follow, given the convenience of being able, for example, to book and buy tickets online.

Indeed, the potential range of online transactions is far and wide. E-Government related transactions, such as the payment of fees and levies online, will soon become a routine. Advances in mobile technology, meanwhile, will allow for person-to-person (P2P) transactions and transfers, and point-of-sale (POS) purchases via mobile phones.

The advent of broadband, too, will boost online transactions by increasing speed of delivery. In addition, newer approaches for the consumer market, like location-based, pushed information to entice users, will draw more customers, especially in popular activities such as shopping.

Online transactions are set to flourish. But will Telekom Malaysia be able to keep up with the flow? The answer would appear to be a resounding “yes”, given the Group’s strong presence in the Internet through TM Net and the mobile sector via TMTouch and Celcom, complemented by a presence in payment services via Telekom Technology Sdn. Bhd. and online applications through TM Net. Telekom Malaysia’s share of the online transactions pie will depend on the amalgamation of efforts in these three areas, to offer comprehensive and attractive services.

MOBILE BANKING

Along with the ICT industry in general, cellular technology has evolved such that it no longer satisfies the function of communication only. These handheld contraptions not only keep us in touch with one another, but also allow us to access information, such as that regarding our bank accounts. In fact, the possibilities offered by mobiles are at least as far-reaching as that provided by the Internet, so much so it has spawned a new buzzword: m-commerce. And TM Cellular Sdn. Bhd. intends to be the pioneer in offering customers the gamut of facilities m-commerce can provide.

TM Cellular Sdn. Bhd. successfully launched the TMTOUCH Mobile Banking and Payment via Secure SMS on 8 October 2002. Partnering with Bumiputra-Commerce Bank Berhad (BCB), TM Cellular Sdn. Bhd. offers an innovative alternative to conventional modes of banking, such as walk-in banking, using the ATM, phone banking and Internet banking. This service enables TMTOUCH subscribers who are also BCB account holders to do their banking via their mobile phones. In order to enjoy this service, TMTOUCH subscribers simply need to upgrade their present 8K or 16K SIM cards to 64K browser SIMs.

Among the banking services that can be conducted via SMS include balance enquiries, fund transfers, changing of PIN numbers, checking of credit card balance and making payment, checking the due date of credit cards, loan payment (such as housing and personal loans) and checking fixed deposit status such as the maturity date. Soon, customers will also be able to use their mobiles to settle utility bills with Telekom Malaysia, Tenaga Nasional, Indah Water, Jabatan Bekalan Air Selangor and Gas Malaysia, as well as pay Universiti Kebangsaan Malaysia and Progressive Insurance fees. And the list continues to grow fast. Moreover, the 64K SIM card also makes it easier for subscribers to access other TMTOUCH SMS products such as Moodswingers, TMTOUCH Summons Checkpoint, Stock Info and News & Sports.

In Europe, m-commerce has advanced by leaps and bounds thanks to the multi-tasking and innovative Smartcard, which can be used to buy pizzas and groceries, reload prepaid cards and connect to bank accounts, all via the mobile phone. In fact, pundits even predict m-commerce may overtake e-commerce because transactions over the mobile network are safer than those conducted over the Internet. M-commerce transactions over GSM (Global System for Mobile Communications) are safe as both data and voice carried over the air are encrypted.

While the Smartcard has yet to arrive on our shores, m-commerce in Malaysia does encompass a novel Multimedia Messaging Service (MMS). With MMS, you can send and receive animated graphics, still pictures, and audio and video streaming on your mobile. TM Cellular's MMS enables users to analyse items they are interested in purchasing, such as cars and mobile phones, and even to view holiday resorts they may wish to stay in. For executives and business users, TM Cellular MMS can be used to transmit business reports, charts and graphs directly from a PC or notebook to a mobile phone, or between mobile phones.

TM Cellular took the opportunity to demonstrate some of its more compelling MMS applications over GPRS (General Packet Radio Services) at the recent Asean Communications & Multimedia (ACM) exhibition in Kuala Lumpur.

Next to m-commerce, another upcoming trend are 3G applications and services, which rely on MMS as their key business driver using General Packet Radio Service. In fact, 3G technology will provide a much greater range of multimedia capabilities and roaming facilities, at higher speeds, than the usual GSM network. Initially, 3G will be available on traditional handsets, but it is expected eventually to outgrow these.

In anticipation of a wave of 3G in Malaysia by 2004 or 2005, TM Cellular will conduct a feasibility study on the availability of 3G handsets, market readiness for the technology and availability of the required infrastructure before going full steam on setting up 3G networks. TM Cellular also foresees the service convergence concept integrated into the business environment over the next few years. However, the roll-out and uptake of such services depend ultimately on consumers' expectations.

Surfing Without Wires

No cables to shackle

No walls to confine

Pick a spot, pick a Hotspot

Work and play, any way you choose

Our Hotspot wireless broadband

Will set you free

By surfing without wires

Everyday, in so many ways

We're Opening Up Possibilities

