.my CONVERGENCE
Vol. 2 / No. 2 | JULY 2008

Malaysian Communications & Multimedia Industry

Trends in 2008

FEATURES

- SECURING MOBILE TRANSACTIONS
- THE MALAYSIAN RFID SCENARIO: CURRENT APPLICATIONS, MARKET AND TRENDS
- EXPRESS DELIVERY: THE E-COMMERCE ENABLER
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WE ARE NOW KNOWN AS SKMM

The logo of the Malaysian Communications and Multimedia Commission depicts the smooth transition of the telecommunications, broadcasting and IT sectors into a single converged communications and multimedia industry.

The regulatory regime is represented by four transparent equilateral triangles, which symbolises fairness, equity, safety and transparency in exercising the four facets of regulation - economic regulation, technical regulation, consumer protection and social regulation.

The tetrahedron's four vertices and six edges add up to 10 elements, each representing the 10 national policy objectives and 10 functions of the Malaysian Communications and Multimedia Commission.

The eternal fixed and focused guiding light represents the Malaysian Communications and Multimedia Commission's regulatory role. The sphere, tetrahedron and the light together symbolize the dynamism of the industry and the commitment of the Malaysian Communications and Multimedia Commission.

SKMM is committed to enhance the quality and efficiency of services to the public where its vision for the industry is to be a globally competitive, efficient and increasingly self-regulating communications and multimedia industry generating growth to meet the economic and social needs of Malaysia.

This new logo is the commission's first visual identity change since its inception in 1998 and signifies a significant step forward in SKMM's transformation initiative to promote investment, innovation and development, with due regard to the public interest.

HIGHLIGHTS IN A DECADE OF TRANSFORMATION

1998

- Introduction of Malaysian Communications and Multimedia Commission Act and Communications and Multimedia Act, and formation of SKMM.

1999

- Repeal of the Telecommunications Act 1950 and the Broadcasting Act 1988 and CMA takes effect.

2000

- Introduction of a set of subsidiary Communications and Multimedia legislations:
  - Technical Standards Regulations
  - Spectrum Regulations
  - Licensing Regulations
- Revocation of ATUR Regulations 1996 thus liberalizing cellular phone rates.

2001

- Migration from old licensing regime to the new technology and service neutral convergence based licensing regime.
- Transfer of regulatory role of Digital Signature to SKMM.
- Transfer of regulatory role in Postal Services to SKMM.
- Launch of the Framework for Industry Development (FID), 2001-2005.
- Nationwide Radio Frequency (RF) Radiation awareness campaign.
- Designation of the Communications and Multimedia Consumer Forum of Malaysia (CFM) and the Communications and Multimedia Content Forum of Malaysia (CMCF).
- Expansion of SKMM presence to Kuching and Pulau Pinang.

2002

- Introduction of Communications and Multimedia (Universal Service Provision) Regulations 2002.
- Introduction of Communications and Multimedia (Rates) Rules 2002.
- Launch and rollout of the first phase of Community Communications Development Programme.
- Implementation of Licence Fee Rebates.
- Expansion of SKMM presence to Kota Kinabalu, Kuantan and Johor Bahru.
- Issuance of Mandatory Standards for Quality of Services (QoS) on PSTN, Public Cellular, Dialup Internet Access and Content Application.

2003

- Issuance of WiFi Guidelines to Promote Wireless Broadband.
- Designation of the Malaysian Access Forum Berhad (MAFB).
- Registration of the General Consumer Code.
- Assignment of IMT-2000 (3G) Spectrum.
- Issuance of Mandatory Standards for QoS on Public Payphones, Digital Leased Line and Broadband Access.

2004

- Issuance of the Determination on Dominant Position in the Communications and Multimedia market and regulation guidelines.
- Issuance of Class Assignment for low power and network controlled devices.
- Registration of Content Code.
- Rollout of Nationwide Cellular Coverage Expansion Program.
- Expansion of SKMM presence to Shah Alam.
- Designation of the Malaysian Technical Standards Forum.
- Approval of National Broadband Plan.

2005

- Launching of the MyICMS 886 Strategy (Malaysian Information, Communications and Multimedia Services 886).
- Reclassification of postage mail and rates.
- Issuance of Access List and Pricing.
- Issuance of Standard Radio System Plan for RFID.
- Introduction of Guidelines on Services Based on VoIP (Prefix 0154) over Broadband.
- Mutual Recognition Arrangement (MRA) for telecommunications equipment with Singapore.
- Migration of Application Service Provider Individual License to Class License.

2006

- Registration of Prepaid Mobile Service users.
- Issuance of Standard Radio System Plan (SRSP) for Digital Terrestrial TV.
- Launch of Malaysia Internet Exchange (MyIX).
- Establishment of ITU Centre of Excellence on rural telecommunication at UUM.
- Issuance of Spectrum Plan.
- Publication of Anti-Spam Toolkit.
- Issuance of Numbering and Electronic Addressing Plan.

2007

- Preparation for Mobile Number Portability (MNP) readiness.
- Mandating of VoIP call initiation and termination pricing.
- Establishment of the National Spectrum Monitoring Centre (NASMOC).
- Establishment of SKMM Consumer Complaints Bureau to enhance complaints handling.
- Strategic Review of Spectrum Management.
- Assignment of 2.3GHz broadband wireless access spectrum.
- Expansion of SKMM presence to Miri and Sandakan.
- Presentation of Malaysian positions at World Radiocommunication Conference 2007 (WRC07).
- Launch of the Klang Valley Broadband Push (KVB90).
- Launch of Web@KL.
- Establishment of National Security Centre.
- Launching of USP Communication Tower Projects along East-West Highway.
- Establishment of SKMM Academy.
- Spectrum Research Collaboration with universities.
- Publication of SKMM .myConvergence knowledge magazine

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Regulars

A historic chapter in the story of communication and multimedia in Malaysia is that on convergence. The Communications and Multimedia Act 1998 was promulgated at a time when convergence was largely a vision. But everybody knew that it was going to happen. Ten years later, today, the realities are upon us with network convergence exemplified by network solutions that are totally IP; presenting a host of potential converged service offerings. The cover story of this issue examines the many paradigms of convergence, reporting from the sidelines of the SKMM Conference on Malaysian Communications and Multimedia Market Trends 2008. The conference among others highlighted Next Generation Networks (NGNs) and services and digital transformation in media and mobility.

Speaking of mobility the SKMM also held a symposium on mobile signatures that explores the future of mobile banking based on Public Key Infrastructure (PKI). The keynote address was delivered by Bank Negara Malaysia governor Tan Sri Dato' Sri Dr. Zeti Akhtar Aziz and is carried in full in this issue. Although cash payments still accounts for the bulk of transactions, it is expected to level off with increasing use of cards in e-payments and online transactions. Playing a catalytic role in this, is an industry that has its roots in ancient history – the express delivery industry. This express delivery industry is also given due attention in this issue especially its role in enabling e-commerce.

These and other articles in this issue make a compelling read.

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DO YOU HAVE A COMPLAINT ON:

Telecommunication Services
Fixed line and mobile phone services, for example on no coverage, dropped calls, billing, false charges, charge imposed for SMS items not subscribed or requested and on other telecommunication services.

For dropped calls and no coverage, please provide date, time of incidence, location (include name of town / village / place), road name or description of the area and landmarks, if any.

TV / Radio Programmes
Programmes aired on TV and Radio, for example on broadcasting quality, content and related matters.

Internet Services
Internet services for example on quality, availability and related matters.

Postal Services
Postal/ courier service for example on availability, delivery and other postal services matters.

Prepaid subscribers can view statements of usage at:

- Celcom: www.celcom.com.my
- Maxis: www.maxis.com.my
- DiGi: www.digi.com.my

How to make a COMPLAINT on communications, multimedia and postal services

STEP 1

Contact your service provider to make the relevant complaint

STEP 2

If the complaint is unresolved, contact the Malaysian Communications and Multimedia (SKMM) Consumer Complaints Bureau:

Online Complaint: aduan.skmm.gov.my

Complaints Hotline:
1-800-888-030
(8:30am - 5:30pm, Monday - Friday)

Write/Walk In:
SKMM Consumer Complaints Bureau
Suruhanjaya Komunikasi dan Multimedia Malaysia
Off Persiaran Multimedia
63000 Cyberjaya, Selangor

Fax: 03-8688 1880

SKMM

Suruhanjaya Komunikasi dan Multimedia Malaysia
Malaysian Communications and Multimedia Commission

MALAYSIAN COMMUNICATIONS AND MULTIMEDIA INDUSTRY TRENDS IN YEAR 2008

Communications and multimedia industry leaders came together recently to discuss industry directions. Yee Sye Chung documents the trends, developments and challenges facing the industry.

The communications and multimedia (C&M) market, including the major sectors of telecommunications, broadcasting, and the postal industries in Malaysia was worth about 6% of Malaysia's gross domestic product in 2007.

Dato' Joseph Salang

In Ringgit value, it was RM37 billion last year, compared to RM33 billion the previous year. Meanwhile, revenue from the mobile communications sub-sector contributed a very impressive RM19 billlion or nearly two-thirds of overall revenue last year.

Dato' Joseph Salang, Malaysia's Deputy Minister of Energy, Water and Communications attributed this sector's impressive achievement to timely investments, robust regulatory measures, the government's pro-investment stance, public-private sector initiatives especially in heavy investments on infrastructure and cost-saving initiatives through sharing of infrastructure and other collaborative measures.

He spoke while officiating at the Malaysian Communications and Multimedia Commission's (SKMM) inaugural Conference on Malaysian Communications and Multimedia Market Trends 2008 in Cyberjaya on 1 April.

In his opening address, SKMM's Chairman Datuk Dr. Halim Shafie hoped the conference, themed New Faces in Communications and Multimedia Industry, would be a catalyst spurring stakeholders to innovate services and exploit new technologies that benefit consumers and services take-up.

from left to right **Dato' Hj Rosman, Dr. Nikolai, Bistaman Siru, K Chelvakumar and Ahmad Azhar Yahya**

The conference featured nine speakers from telcos, broadcasters, media houses and consultancies who shared their views on the transitions taking place within the telecommunications and broadcasting industry.

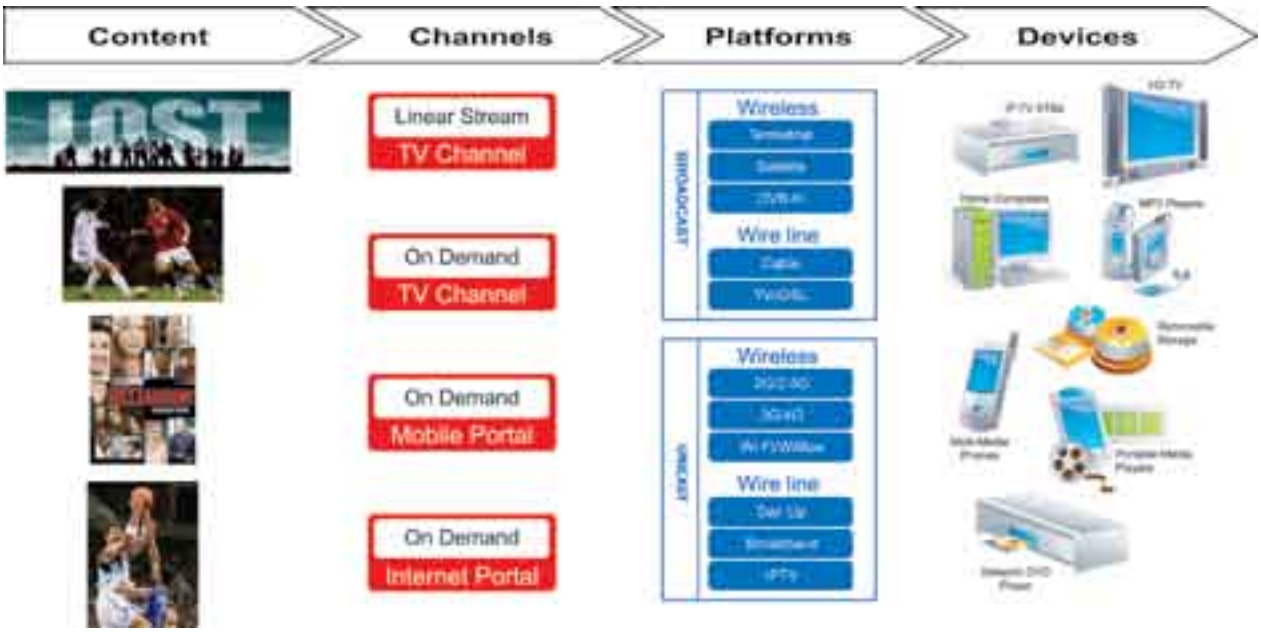
Highlights include convergence and its development; TM's road to Next Generation Networks (NGN); the growing mobile data services segment; mobility in media; and digital transformation in the broadcasting industry.

Convergence – an emerging reality today

Ten years ago, when what is probably the first convergence law in the world, was introduced, 'convergence' was still a vision.

Today, a decade after the introduction of the Communications and Multimedia Act (CMA) 1998, we see nascent realities of 'convergence' in the introduction of all IP network solutions by vendors and equipment suppliers who have developed solutions after years of intensive R&D efforts on convergent networks.

Globally, consumers are increasingly enjoying the convergence of content, channels, platforms and devices



"Convergence comes in many shapes and sizes," said Peter Evans, a senior analyst for Asia with Australia-based global telecommunications industry research firm Paul Budde Communications.

There is fixed and mobile telephony convergence; telecoms and broadcasting or media convergence; voice and data convergence such as voice over IP (VoIP) on a data network; telecom and IT convergence such as in the next generation network architectures; and device convergence in the example of smartphones that combine the mobile phone, MP3 player and Internet communications.

Then there is triple play, which is service convergence with unified provision of TV/video, telephony and Internet services, often through broadband connections. The addition of mobility to the brew makes it a quadruple play.

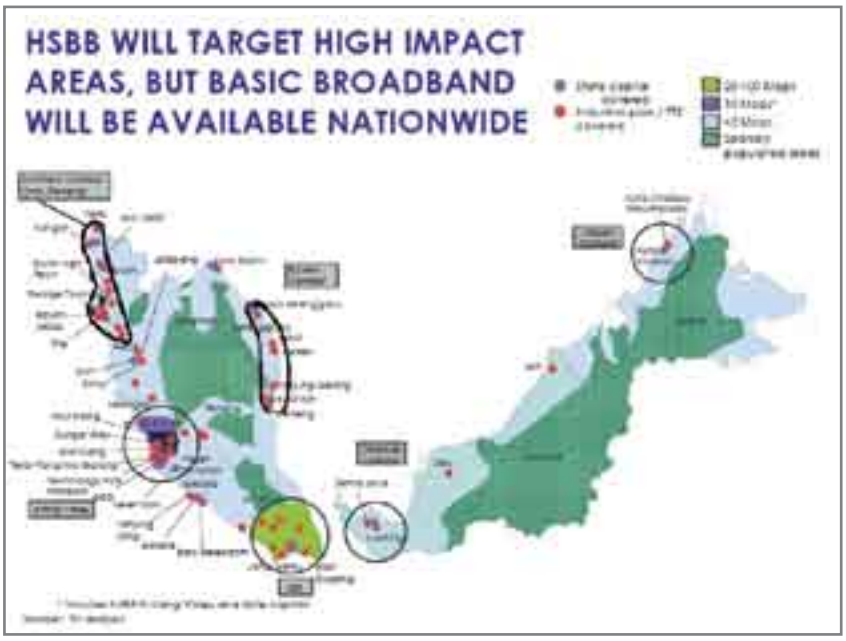
Overall, Evans noted that equipment suppliers are putting massive research & development (R&D) efforts into convergence; operators are planning or beginning to deploy convergent networks; while customers are seeing the first converged service.

"However, it's important to make a key distinction between network convergence and service convergence," said Evans.

There is no doubt that network convergence is happening through all IP based networks carrying voice, data, audio and video, rather than separate networks for each, with their different respective technologies and standards.

But it isn't as simple or straight forward with service convergence. Service convergence focuses on a combined business model rather than the solving of technical issues or an agreement on common standards.

"It may be useful to reflect on some specifically customer-related questions. Questions like what benefits does convergence provide the customer and what service problems is convergence solving. Also, have some operators begun rushing to provide new services when customer demand remains unclear and untested?" said Evans.



In essence then, while network convergence is a definite reality, service convergence is happening only to an extent and its success will depend on several factors – including correct business strategies, marketing plans and fair access pricing with the regulator playing a key role.

"Making service convergence opportunities offered by technology a reality requires competitive markets, solid backing by regulators and above all a positive customer response, since the ultimate reality is and always will be the customers," concluded Evans.

TM's road to NGN

On Telekom Malaysia's (TM's) journey in its transformation to a NGN, its chief information officer Ahmad Azhar Yahya cited the benefits, considerations and challenges of its undertaking.

NGN is basically an all IP-based network carrying voice, data and video, while enabling a new generation of telecommunication services with greater efficiency. NGN offers the benefits of simpler architecture over traditional networks, including easy scalability.

Its drivers include allowing operators to provide new and more innovative services, achieve better and more efficient operation and maintenance, lower capital and operational expenditure, while enabling more aggressive competition and hence greater choice for customers, including fixed-mobile convergence and multiple services over a single broadband connection to the home.

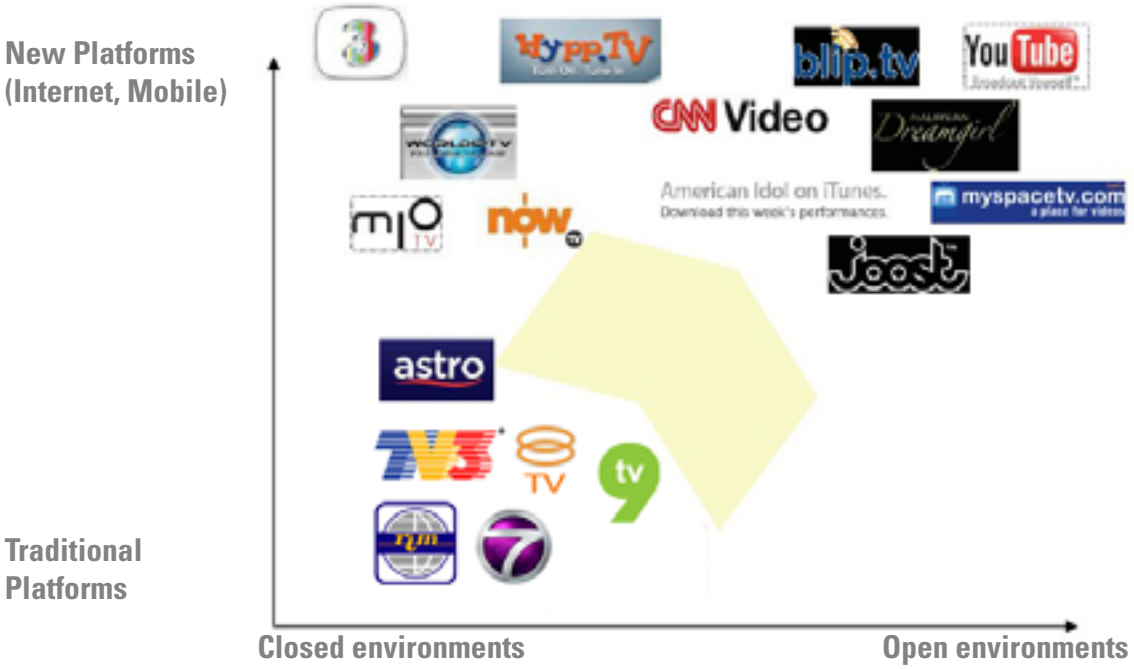
The implementation of NGN reduces the number of elements, especially in TM's core network. Traditionally, there are separate networks such as Asynchronous Transfer Mode, Frame Relay, IP-virtual-private network and others running over a Synchronous Digital Hierarchy/Dense-Wave Division Multiplexing backbone but, with NGN, these are integrated onto a single IP-based core over the same backbone.

NGN would simplify TM's network elements - reducing its over 500 nodes in the core to around 90 IP-based core nodes; 845 circuit-switches to 8 IP-based softswitches; allow previously multiple services on multiple platforms in its data centre to become multiple services on a single platform; and change several different types of access nodes to one type of access node.

In the back office, NGN centralises all management and provisioning functions for all types of services onto a one integrated delivery platform, while also enabling new business opportunities for operators. Besides lower capital and operational costs, operators would be able to provide broadband services, broadcast services, video-on-demand and high speed broadband to customers.

In fixed-mobile convergence, NGN enables seamless experience on one

Explosion of Audio Visual Content



Increasing popularity of audio visual content and its consumption over Internet and mobile platforms

device, one number, one voice mailbox and one application set. It lets operators provide one service package, one bill and one customer service point.

Over the past 18 to 24 months, operators like BT, Telecom Italia, KPN, Deutsche Telekom and TM have implemented some aspect of NGN in their networks.

Based on France Telecom's example, NGN-enabled services include watching TV on PC, viewing or listening to PC content on TV or HiFi systems, voice-over-IP telephony, Internet radio, networked storage of music, videos and other content for display on any suitable device and simplified management of all these from a console.

Ahmad Azhar also cited the need to manage customer's expectations towards IP-based services and actively create and promote customer need for such services.

On its development of high speed broadband coverage, TM indicated basic broadband with speeds under 2Mbps will be available in most populated parts of the country, with higher speeds in various cities and high-need industrial zones. Access options include Fibre-to-the-Home (FTTH), Ethernet-to-the-Home (ETTH), VDSL2 and ADSL2. Some of this coverage will be totally new, while some will ride on the existing copper network.

Mobile data services gaining share

The mobile industry has long seen revenue from voice services contributing a major share of overall revenue per user but data services have recently started to catch the imagination of users.

According to Dr. Nikolai Dobberstein, Maxis Communications' Head of Products and New Business, non-voice revenue now comprises well over 20% of Maxis' overall mobile revenue.

Maxis reports that over 100 million SMS are sent by Maxis subscribers a day. It has 2.8 million active data users; 15 to 20 million hits per month on its WAP portal and more than one million active 3G subscribers and MMS users each.

Maxis also offers music download subscriptions and packages, 20 streaming TV and 5 radio channels, 150 video clips and user generated content on certain mobile phone models, and easy-to-use client, with electronic programming guide.

Nikolai also revealed that local content is driving success in mobile gaming. The company is also driving mobile commerce and is in the midst of trials for Near Field Communications (NFC) services and mobile TV.

Maxis reports as being the world's first to provide international mobile-to-mobile remittances with Globe in the Philippines. It has conducted NFC trials with integrated credit card and Touch nGo payment cards.

The Maxis wireless broadband service for homes is based on High-Speed Downlink Packet Acess (HSDPA) over its 3G network based on a choice of desktop or USB modems.

Celcom also launched a similar service. Meanwhile, Johan Dennelind, DiGi Telecommunications chief executive officer said the market of the future will see broadband anywhere, with everything going mobile or moving onto the Internet.

Mobility in media

Consumption of media, whether it's reading newspapers with the morning coffee, having TV dinners, reading websites and blogs on desktop PCs and making and receiving phone calls with the desktop phone is all moving onto notebook PCs, personal digital assistants (PDAs) and mobile phones, according to Dato' Ir. Hj. Rosman Ridzwan, Chairman of U Television (formerly MiTV).

"Consumption of audio visual content, such as Hypp. TV, WorldIP.TV, CNN Video, YouTube, myspacetv.com,

Joost and others over the Internet and on mobile platforms is gaining popularity," said Dato' Rosman.

Meanwhile, voice tariffs are generally declining. European operators, for example are experiencing this trend. A Citigroup Global Markets and internal U Mobile studies show prepaid tariffs to be declining between 1% to 20% in the period between July 2005 and June 2007. Postpaid tariffs also show general decline, but with wide fluctuations; Norway declined as much as 33.2% (prepaid decline at 20.3%) while Spain bucked the trend, with increase of 16.9% (prepaid increased 0.7%).

"Over the same period, most Malaysian mobile operators faced declining average revenue per user (ARPU) among postpaid subscribers between -13% and -18%, with a less drastic decline among prepaid users, while the contribution of non-voice revenue to total revenue grew from 15% to 18% over that period," said Dato' Rosman.

Latest reports from SKMM show Malaysia's mobile penetration at nearly 85% of the 27 million population in 2007. Subscription TV reached 37.1% of households in 3Q 2007.

"Mobile broadcasting is a natural result of consumer's growing consumption of audio visual media combined with mobility and new service providers such as U Mobile is keen to tap on such emerging trends," he added.

U Mobile is conducting trials among 5,000 users using DVB-H technology. Its product will be a new digital live broadcast TV service known as Mobile Live, which will have music, lifestyle and feature channels and existing local free-to-air TV channels.

The trial users also get voice minutes, SMS, MMS, high-speed mobile broadband and value-added services which allows U Mobile to study market acceptance of mobile broadcast content, including acceptable pricing and channel mix.

While video streaming is not new, technologies such as DVB-H and MediaFLO relieve bandwidth demand on cellular networks by broadcasting direct to phones similar to terrestrial or satellite TV in point to multi-point mode, while user interaction, such as channel selection, and so on which consumes little bandwidth is carried over the cellular network.

"Mobile broadcasting provides another avenue for service providers to tap into the growing consumption of audio-visual media and it is expected to complement service providers' portfolio, including value-added services and mobile broadband," said Dato' Rosman in summary.

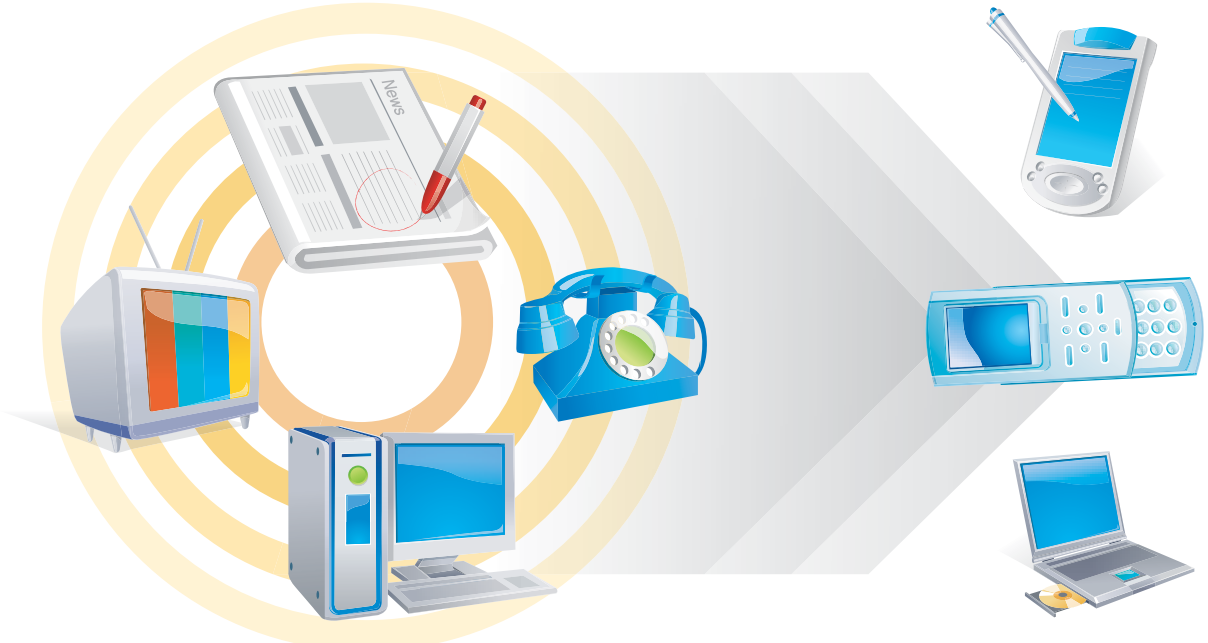
On a related subject, current work on digital terrestrial television (DTT) will have to be completed quickly to provide a framework for investments to be committed. Spectrum allocation for subscription broadcasting, including mobile and terrestrial, as well as for digital free-to-air channels should be considered carefully due to the different business models and market demands.

It is also vital to maintain a balance between competition and market forces on the one hand and depth of regulatory intervention on the other that will allow the industry to make business investment decisions.

Broadcast industry

Astro, Malaysia's direct-to-home (DTH) satellite TV operator acknowledges the global trend towards similar content on multiple devices and platforms over multiple channels and is playing an active part in addressing it in Malaysia. An

Today's Media is moving towards Mobility



Consumption of media and communication services are moving towards mobile platforms and converged devices

example of this trend is PCCW's premium Champions League content used across TV, broadband and mobile platforms in Hong Kong.

"Pay TV operators around the world are embracing convergence with related development in their business models," said Astro TV financial controller, Mazhairul Jamaludin.

He also cited British Sky Broadcasting (Sky) series of convergence-related initiatives over the past few years; offering its content over the broadcast digital TV, mobile and broadband platforms. Sky offered free to air DTT channels in 2002 and has planned DTT Sky pay TV services in 2008 featuring a "picnic" of entertainment such as movies, sports and news.

It offered 20 channels of Sky mobile TV for mobile phone users in November 2005 and Sky by Mobile in January 2006, featuring movies, sports and news, including electronic programme guide search and personal video recording via the mobile segment.

In 2004, Sky introduced Sky by Broadband, which currently provides content for IPTV provider Homechoice (now Tiscali). Sky to Broadband service is also offered to the personal computer via broadband connections through its Sky Anytime service, featuring 100 movies and TV series, including sports highlights.

Singapore's Starhub is a case study within the region. It has adopted a content-led strategy, and is leveraging its pay-TV content to launch convergent service offerings across multiple platforms such as mobile and broadband. Its triple play service under Payin TV brand allows customers to play games on mobile, Internet and TV for a single fee.

Starhub's iView lets users with broadband connections access six of its mid-range pay-TV channels on their PC, while its Mobile ESPN lets users view exclusive news, updates and results from the European Premier League and other premier sporting events on their mobile phones. Its PushMail service is a wireless push e-mail solution for business and residential customers using Starhub's mobile and Internet service provider capabilities.

As for Astro, besides its familiar dish antenna and set top box in homes, it also provides 13 mobile TV streaming channels, including popular news and entertainment channels on 2.5G and 3G mobile phones.

It also provides mobile video-on-demand clips such as the Barclays Premier League Mobile Video Clip Service, Sports News Television, David Leadbetter Golf Academy and Tiger Woods Mania.

Astro also conducted DVB-H trials with Maxis with between 80% and 90% of trial users being pleased with its start up wait time, ease of use, video and audio quality. Astro is also introducing Astro Broadband, which lets users view video-on-demand and catch-up TV programmes online.

Over the years, Astro increased investments in developing home-grown content from RM94 million in 2004 to RM229 million this year and over the same period, investment in home grown content compared to international grew from 25% of its overall content in 2004 to 35% today.

Digital transformation

The authors Kayur Patel and Mary Pat McCarthy, in their book, 'Digital Transformation', define digital transformation as "A profound commitment to digital transformation in which a company's business processes are defined by the customer and enabled by technology. A transformation in which content, commerce, community and collaboration are rich, personalised, immediate and ubiquituous."

National digital transformation strategies such as South Korea's IT839 and Malaysia's MyICMS886 both chart the introduction and promotion of various services carried over a variety of infrastructure and enabling the development of a number of new ICT-based economic growth engines.

Radio Televisyen Malaysia (RTM), Malaysia's national broadcaster operates 2 terrestrial analogue TV stations (RTM1 and RTM2), 31 FM radio stations and 1 short-wave international broadcast.

"RTM's digital transformation includes digitising its studio and production facilities; digital TV trials and future plans for digital TV converged with IP-return channel for set-top box and awareness programme," said Abu Bakar bin Abdul Rahim, its Deputy Director-General (Engineering).

Broadcasts over RTMi, RTM's digital television channel based on the DVB-T (DVB-Terrestrial) standard (a cousin of DVB-H) began with set-top boxes installed in 2,000 homes in the Klang Valley in September 2006. While the trial officially ended in March 2007. RTM continued with digital transmissions due to the positive response during the trial. It also plans further testing using different video and audio codecs.

As of February 2008, digital transmissions are available in the Klang Valley at 674MHz and 658MHz. The 674MHz channel carries RTMi as TV 6 and Muzik Aktif as TV7, while the 658MHz channel carries a simulcast of RTM1 and RTM2 as well as RTMi. Broadcasts run daily from 3pm till sometime between 12 midnight and 2am, while Muzik Aktif now broadcasts 24 hours.

Other transmissions include Arena broadcast from 3pm to 5pm daily, a demo channel called EPG and Radio Aktif carrying simultaneous broadcasts of 7 RTM radio stations in the Klang Valley. RTM's Superteks channel is a datacasting service, which includes Berita Aktif airing 24 x 7.

Abu Bakar pointed out that there are issues and challenges that must be addressed. "These include the level of education and awareness – namely the size of the Internet generation; infrastructure penetration rate and level of security; affordable access cost that is perceived as value-for-money and the availability of content and killer applications."

Monitoring transformation

Strategies for digital transformation will have to be reviewed periodically and new strategies identified. For example, key priority areas could be aligned to the Digital Opportunity Index or DOI for Malaysia.

The DOI, endorsed by the World Summit on the Information Society (WSIS) in Tunis in 2005, is a composite index ranging from zero to 1, based on 11 core ICT indicators and

is intended to help policy makers determine where their countries are strong and weak, so they can prioritise areas needing attention. The 11 core indicators are grouped under Opportunity, Infrastructure and Utilisation.

Opportunity measures the basic access needed to participate in the information society, mobile population coverage, Internet access prices and mobile prices. Infrastructure includes measures of different networks (such as fixed lines, mobile cellular susbcribers and household Internet access) and devices (including the number of households with a computer and number of mobile Internet access devices). Utilisation evaluates ICT usage in Internet users and broadband subscribers.

In the DOI 2005/2006 published in the World Information Society Report 2006. Malaysia came 57th with a DOI of 0.50 versus South Korea which was ranked first, with a DOI of 0.80. A DOI of 1.0 means complete digital opportunity, while a DOI of 0.0 means no digital opportunity.

In terms of services, the MyICMS886 strategy aligns with Malaysia's DOI in areas of high-speed broadband, 3G & beyond, mobile TV, digital multimedia broadcasting, digital home, voice-over-IP and Universal Service Provision, while in terms of infrastructure, points of alignment are in multi-service convergent networks, 3G cellular networks, satellite networks and home Internet adoption.

Where do ads go?

How do advertisers decide where to place their ads in the world of converged services?

Converged services are creating greater fragmentation in the choice of media and platforms, according to Abdul Rahman Ahmad, Media Prima group managing director.

Media Prima is a media conglomerate which owns the TV3, 8TV, TV9 and NTV7 TV stations. Other entities within the group include a movie production and distribution house, an events management company, the NSTP publishing group, two radio stations, outdoor advertising companies and new media operations.

Traditional ad placement choices were generally limited to TV, radio, newspapers, billboards and the cinema but today, these choices have increased to include mobile phones, websites, e-mail, CD databases and retail outlets.

Another issue is that with more media choices people seem to find leisure time convenient to them to consume these. In Malaysia, SKMM's annual surveys show that intensity of Internet usage is on the increase from 9 hours per week in 2005 to 15 hours per week in 2006, tearing many away from traditional TV.

According to a 2005 survey, "Surveying the Digital Future" across 28 countries by Jeffrey Cole, on average people spent most of their leisure time each week either watching TV or online.

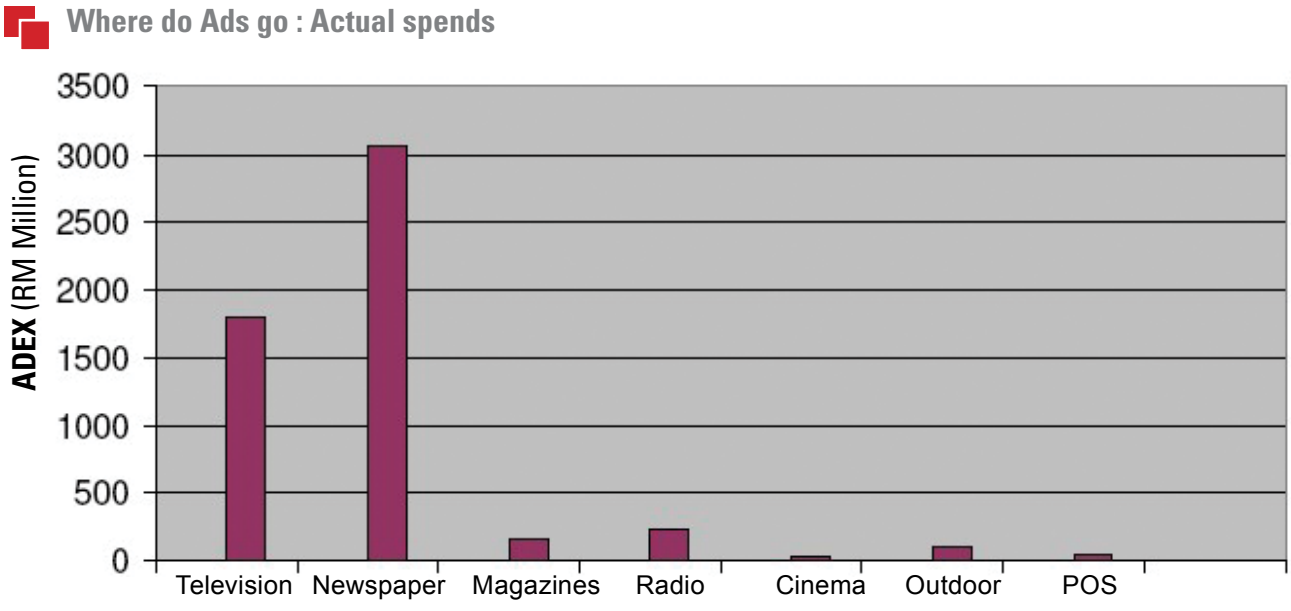
Those 55 years and older on average spent 16 hours a week watching TV, while the 18-35 age group spent the least time (11 hours) watching TV. On the other hand the 55 and above age group spent a mere 8 hours online, while those aged 18 to 35 and 35 to 54 tied to spend the most time of 16 hours each online.

"The solution would be to converge the message across the media, covering multiple touch points, building cumulative reach and cutting through message clutter," said Rahman.

Convergence is driven by media-hungry consumers who want to watch music videos on TV, have the same song in MP3, perhaps also turn it into a mobile ringtone and even create their own content based on it with the aim of sharing it online.

It's driven by technology through digitisation and common standards while new tools such as online widgets, interactive video tools and the creation of Java applets for mobile are increasing day by day.

The changing media landscape with its shift from mostly professional content to include amateur content like e-mail,

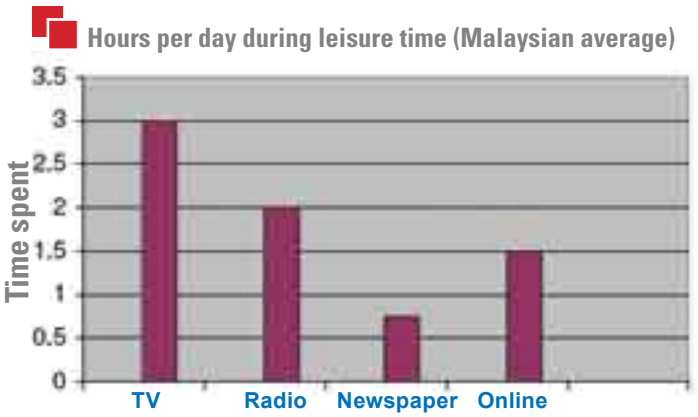


blogs, and social networks is another driver. The role of media is changing from broadcast to interactive mode, with opportunities to create data at the individual level, create and customise messages peer-to-peer in real time and lowering barriers to entry for advertisers.

"Thus challenges facing advertisers in a world of converged services is to deliver 'reach levels', manage the cost of achieving that, cut through message clutter, and tap into technology opportunities and the changing role of media," said Rahman.

However, expectations are not in sync with reality. For one, the Malaysian market remains small at RM5 billion, while Thailand's is worth RM9 billion. Also, about 20% of traditional media brands are less than seven years old with players competing intensively.

Advertisers in Malaysia should deliver an integrated message, cover the touch points, deliver interactivity and involvement, a single contact point, adopt newer business models of paying to reach or paying for consumers' involvement or purchase.



Malaysians spend most of their leisure time – ie three hours per day – watching TV, 2 hours listening to the radio, 2 hours online and 45 minutes a day reading newspapers but newspaper advertising in Malaysia has the lion's share.

"As CBS president Leslie Monves once said: Your wireless is useless if you're hitless," said Rahman.

Savings in retaining customers

With all this competition between multiple service providers, customers will be spoilt for choice, so one of the challenges facing service providers is to retain their customers as long as they can.

"Retaining customers makes economic sense," said K Chelvakumar, Celcom vice-president for Regulatory & Government Affairs.

According to a 2004 report, "The Analysis of antecedents of customer loyalty in the Turkish mobile telecommunications market," Aydin S and Ozer G cited mobile operator Orange in the UK which experienced a 20% customer churn rate in 1996 and it cost that company 256 pounds to recruit each new customer. It was estimated that if this churn rate was reduced to 10%, it could save 25 million pounds.

According to a 2002 report, "Identifying the Key Issues for Measuring Loyalty" by Bennet R and Bove L, customers also benefit by staying with their service provider, since the longer they stay, the more likely they are to receive special treatment and rewards from their provider. Customers also avoid costs of learning new procedures and maintaining a long-term relationship with their service provider minimises risk, simplifies choice and provides the customer with a feeling of optimal satisfaction.

For the organisation, loyal customers are easier to serve due to their familiarity with the service provider's operations. Increased knowledge about their customers lets service providers improve their marketing efforts and negotiation with them. Loyal customers will allow service providers time to recover in the event of service failure.

In their 2005 report, "An Empirical Study of Customer Loyalty of the Telecommunication Industry in China," Xue J and Liang B identified 16 factors influencing customer loyalty which were related to telecommunication service quality, trust, switching cost and staff loyalty.

These Chinese and Turkish studies suggest that ways to retain customer loyalty include providing high quality of service, build customer trust towards the brand, apply switching cost, maintain excellent customer communication, maintain key employees and pay close attention to the life cycle of loyal customers.

"Celcom's integrated approach to branding and customer loyalty involve optimising network coverage, speed and quality of service; providing innovative billing, distribution, products and customer service and delivering the best product value at competitive prices," said Chelvakumar.

By the end of the conference, it was clear that a digital transformation was in progress in this country and that the same drivers that are spurring transformation worldwide - the rise of a increasingly networked world and the growing twin movements of user generated content and social networking - are at work in Malaysia.

This ground breaking conference paves the way for annual conferences where trends and expected developments in the year will be discussed. .my

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Securing Mobile Transactions

Mobile banking and transactions are envisaged to grow in usage very soon. Bistamam Siru Abdul Rahman reveals how digital signature solutions will help ensure mobile transactions remain secure.

After spectacular failures at the beginning of this decade, mobile banking and digital signature solutions based on a Public Key Infrastructure or PKI are making a comeback as the technology has matured and the public becoming more ready for them.

High mobile penetration rates has created a mass of consumers who want to conduct mobile banking, make mobile purchases and conduct other forms of mobile commerce using their mobile phones. Malaysia now has over 85% mobile penetration rate by population in the fourth quarter of 2008.

Effective security of transactions are essential to the successful uptake of mobile phone services, especially now with smartphones having processing power of pocket-sized computers and able to execute authentication functions in the mobile world.

In her keynote speech at the recent Mobile Signature Symposium, Tan Sri Dr Zeti Akhtar Aziz, Governor of Bank Negara emphasized the need to strengthen consumer confidence in the safety, security and reliability of mobile networks as a means for consumers to access financial services. "Openness and inter-connectivity are also critical in the mobile banking and payment initiatives" she said, and in that respect "the industry has to respond rapidly to address the need for interoperability and collaborate in areas such as developing a common infrastructure, common payment messaging format, as well as common security and authentication standards."

Datuk Dr Halim Shafie, Chairman of SKMM, in his opening remarks stressed that in fostering an interoperable ecosystem, it is "imperative that we seek effective win-win solutions which allow banks to do what they do best, that is secure credentials and facilitate financial transfers, while mobile operators do what they do best which is to transfer information."

Going forward, SKMM and Bank Negara Malaysia agreed to establish an Inter-Industry Working Group as a step towards planning for the appropriate environment for wireless PKI development and to catalyze the transformation of this mobile initiative. This will also include

engagement with the market participants, payment service providers and industry players to collaborate in these important areas.

Panel chaired by SKMM advisor & Trustgate chairman Bistamam Siru Abdul Rahman *(middle)*

Mobile signatures in support of secure mobile transactions

Despite improvements in mobile phone browsers allowing people to access their bank's website and also to generate a one-time password or OTP using an on-board Java applet, it's not easy to switch between the two and entering an OTP into the phone's browser is difficult.

OTP-based authentication with mobile phones is also susceptible to man-in-the-middle attacks, but their main weakness is that the digitally signed document does not have the same legal standing as paper documents signed by hand.

Only documents signed using digital signatures based on PKI authenticate the signatory and give them the same legal status as hand-signed ones in courts of law in some countries, including Malaysia.

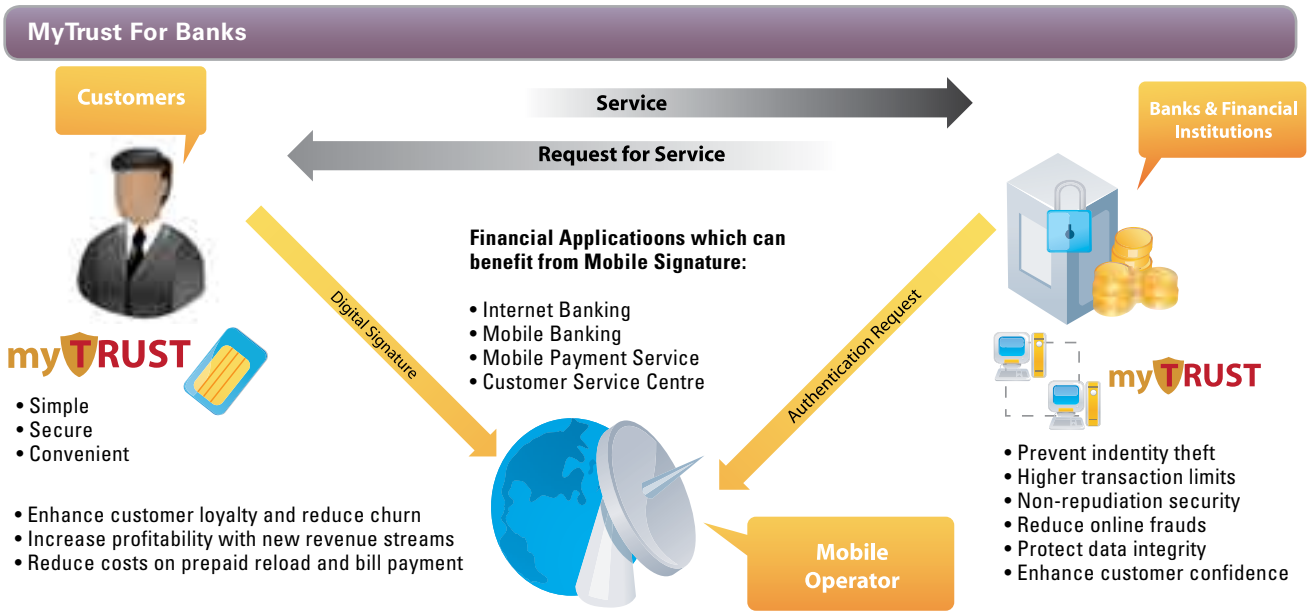
Two parties in an online transaction over the Internet usually don't know each other but if each of them registers themselves and their identification to obtain a digital certificate from a certification authority (CA), the CA will then serve as a trusted third party or trusted intermediary which verifies the authenticity of one party to the other during online transactions. Malaysia's Digital Signature Act passed in 1997 gives legal backing to PKI.

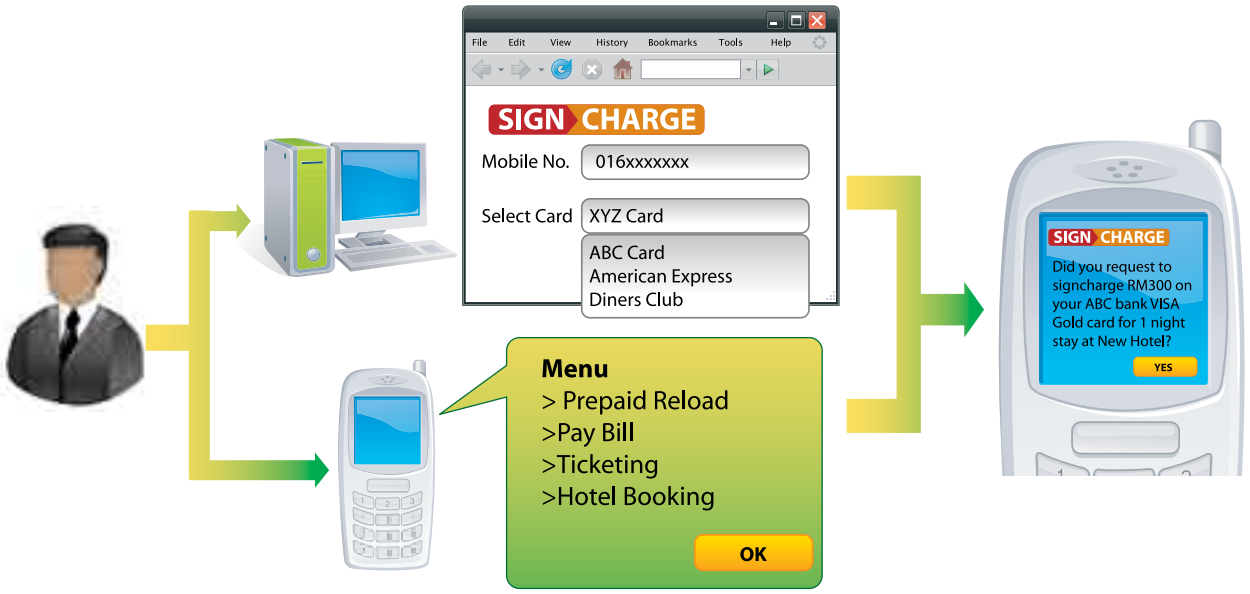
A digital certificate is like an electronic "identity card" which establishes the user's credentials when doing business or other transactions on the Web. In a transaction involving a bank, the client's certificate is matched with their server certificate held by the bank and when the bank receives their instruction, it will verify their authentication with the CA before authorizing the transaction. The client software also encrypts the document to make sure it arrives at the recipient's end with full integrity.

However, while all this is good, it's cumbersome and requires a lot of memory, resulting in lots of people shying away from PKI and CAs not making much headway in the early days as people found other ways to overcome security concerns, even though they don't have legal standing in court.

The CAs later provided the private key in the form of a token stored in a USB drive and the user had to provide the PIN number to the certification software so it can generate the approval code if they match. This did a lot to simplify the process and support usability.

PKI is a model two-factor authentication, similar to inserting an ATM card into the slot and keying in the PIN and it gives people peace of mind when dealing over the Internet and is also used in non-banking applications in conducting government-related dealings such as in the Treasury's tendering system which requires all procurement processes to be conducted electronically.





However, PKI and m-banking failed initially because PKI cryptography involved complex and intensive programming skills and proved to be a challenge even for a desktop PC, let alone a mobile phone, and the overhead required, slowed systems down noticeably as well.

In 2000, when Internet banking via PCs started, banks tried to incorporate all their Internet banking services onto the mobile phone and added security features too, thus making an already clumsy mobile browsing experience even worse, resulting in customers turning away from m-banking.

SIM cards with enough processing power to perform PKI cryptography were too expensive for mass implementation, while handsets back then didn't support SIM toolkit required for such value-added services.

Wireless PKI is ready for take off

Today, PKI software has become leaner, mobile phones are more powerful, while their SIM cards now have larger memory, Java enabled and have become commoditized and thus affordable for mass distribution.

Couple that with the near ubiquity of mobile phones in Malaysia and the excitement is now about providing a mobile identity on every mobile phone through a digital certificate preloaded onto its SIM.

Phones also enable going beyond two-factor authentication to include two-channel authentication as well. Here the user may be conducting an Internet banking transaction using a PC but instead of keying in their password and risk it being captured by phishing, identity theft and other eavesdropping malware, the bank will instead send a 6-digit transfer authorisation code to their phone over the cellular network which they can use to complete the transaction.

However, this still isn't as secure as many banks that were hit found out, since the transfer code is stored on the phone and remains valid for a few hours, so Bank Negara Malaysia has instructed banks to find a truly secure two-factor, two-channel authentication system.

This is where wireless PKI scores high marks - the user's private key is generated on the chip, and never leaves the chip, thus living up to its status as the gold standard in on-line security.

Now Trustgate is bringing in wireless PKI technology from Valimo Wireless of Finland to set up mobile signature services to meet the need for two - factor, two - channel authentication in Malaysia.

With this service Trustgate will be able to provide mobile signature and identity infrastructure for business driven services for mobile operators, financial institutions, corporations, electronic-government and service providers such as airlines, and others and its solution that lets users sign and charge almost anything, from anywhere from their phones while on the move.

For example, while making an electronic application via the Internet, the bank will notify the applicant via secure SMS to sign the application using their phone.

The customer enters their secret signing PIN into the signing applet on the SIM which matches it with the secret keys stored on the tamper-proof SIM and together with some chosen text, it generates the digital signature. This is then sent to the CA which forwards it to the bank upon verification.

Likewise, the phone can be used to sign credit card purchases of cinema tickets. Here the purchasers would give their mobile phone number to the clerk in the ticket counter who will key it into their system and the credit card company will send an SMS to the phone requesting the user to sign their charge of the tickets to their credit card on their phone. Similarly, they can use their phones to pay bills, apply for loans or to sign any application requiring their signature. It's simple – anyone who can read and understand SMS text and can enter a few numbers can use it.

Such two-factor, two-channel security is immune against phishing attacks and to man-in-the-middle attacks since the mobile phone, Internet connection and digital signing process cannot all be compromised simultaneously.

However, getting it all to work smoothly requires an ecosystem comprising banks, mobile operators, government, businesses and service providers all participating in the system, as well as end-users with handsets supporting the high-capacity SIM cards capable of running such certification applications.

For all this to succeed, service providers will have to face the challenges of attracting a critical mass of consumers to participate in the service and it will require a visionary to drive it.

To that end, some banks such as Rabobank in Europe started its very own mobile virtual network operator (MVNO) RaboMobiel, just so it could improve its customers' mobile banking experience as well as its own revenue stream but this isn't something most banks would likely do.

> **"...being SMS-based, mobile signature is highly affordable for most to use since one signature requires one SMS; it empowers electronic government; is environmentally friendly by reducing paper use."**

Mobile signatures are already used by millions in South Korea, Japan, Sweden and Finland, with moves towards it in France and Italy.

Another model success story is Turkcell, Turkey's incumbent mobile operator with close to 59% market share and 34 million subscribers. Turkey has a population of 74 million with 83% mobile penetration.

Turkcell Dr Deniz Tuncalp

Turkcell Story

"In Turkey, the SIM card serves as a digital citizen identity card; many people are not computer literate but use mobile phones every day; being SMS-based, mobile signature is highly affordable for most to use since one signature requires one SMS; it empowers electronic government; is environmentally friendly by reducing paper use," Dr. Deniz Tuncalp, Turkcell manager for Mobile Signature Service told the symposium.

Using Valimo's system, Turkcell's mobile signature service is used by 12 banks, allowing their customers to authorise credit card payments, ATM withdrawals, buy life insurance online, trade in stocks, conduct mobile banking, apply for loans and sign online transactions using their phones.

Beyond banking and finance, it is used by two government municipalities with more expected to come on board this year, to sign customs declarations online and to let doctors access patients' medical records, with further plans to let doctors authorize changes in medication for specific patients through their mobile phones.

On average, there were 19 mobile signatures made by Turkcell subscribers in April, 2008 and the most prolific signatory signed 344 times that month!

"The user experience while signing using a mobile phone is easier than sending an SMS, so even my mother can use it, while that's not so when signing on a PC," said Tuncalp.

(A snapshot of mobile banking in Malaysia is available at Scoreboard section, inside back cover) .my

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Towards a More Efficient Payment System: Electronic Payments

Bank Negara Governor's Keynote Address at the Mobile Digital Signature Symposium 2008

It is my honour and pleasure to be here today at this Mobile Digital Signature Symposium 2008 to deliver an address at this important forum. This forum takes place at a time when developments taking place in the global economy are resulting in fundamental changes to our lives. While the global economy has benefited from an extended period of high performance and strong growth, it now requires greater agility to adapt to the rapid changes that has occurred. A major emerging international phenomenon is the rising inflationary pressures.

We are now living in an environment characterised by rising prices, with energy and commodity prices prevailing at record highs. Energy and commodity prices which have risen steeply have been driven by demand and supply factors and reinforced by market conditions. Clearly, the global factors that have influenced these international prices are beyond our control. Individually and collectively, we therefore need to adjust and adapt to these new conditions. Increasing efficiency and adopting new business processes needs to be explored to reduce costs.

An area in which the quantum leap forward can be made, particularly by emerging economies, that will substantially increase the level of efficiency and thus reduce costs, is through the adoption of a more expedient and efficient means of payment. This will be the subject of my remarks today. While the Central Bank supplies currency notes and coins, we are also concerned with payments in its broader context. An important function and responsibility of the Central Bank is to promote the development of safe and efficient

payment systems. Any inability to make payments in an economy would have a far reaching and widespread impact on society. Our task is therefore to ensure that the public and businesses can make payments in a safe and efficient manner.

The task also involves taking advantage of the technology and innovation wave and to move towards more efficient payment modes. The economic benefits from this can be immense. Studies have shown that shifting from paper based to a more electronic based payment systems can generate an annual savings up to 1% of GDP. Further research has also shown that it becomes a catalyst that promotes increased consumption spending. Moreover, it can also enhance financial inclusion by extending financial services to the unbanked communities. In so doing, such communities would be brought into the formal financial system and into the economic mainstream. This would not only promote the opening of banking accounts amongst this target group but would also enable them to enjoy lower cost of financial services and better means of savings, thus benefiting the economy as a whole. As the electronic payment channels become more easily accessible, user-friendly and offered at a low cost, it would thus provide the opportunity to shift the remittance flows from the informal to formal channels.

Indeed, electronic payments can be one of the strategic tools to meet these objectives and achieve higher economic growth. Electronic payment increases operational efficiency and improves productivity levels through expedient payments and receipts of funds. Electronic payments would also provide the speed and convenience of making payments from any place or time. It also reduces costs through the reduction of redeployment of resources used for handling cash and cheques. Accelerating the country's migration to electronic payments has therefore become a part of Malaysia's larger national agenda to increase the efficiency of the nation's payment systems which would ultimately improve the competitiveness of our economy.

Cash payments in Malaysia still account for a large portion of the number of transactions in the economy. Going forward it is expected that its use will level off and stabilise with the increased use of electronic means of payments. Credit cards, ATM cards, debit cards including the e-purse application embedded in the MyKad are among the card payments possibilities in Malaysia. The increased use of cards is an international trend and is expected to gain significance in Malaysia. Giro transfers, other credit transfers and direct debit are also gaining significance by both individuals and businesses. Finally, Internet banking has also begun to experience stronger growth.

While we have made considerable progress in promoting the adoption of electronic payment with notable growth registered across all electronic payment methods, paper-based payments still remains the more popular form of payment. Cheques continue to account for a high percentage of the total non-cash retail payments while currency-in-circulation (CIC) as a percentage of GDP remains relatively

"Studies have shown that shifting from paper based to a more electronic based payment systems can generate an annual savings up to 1% of GDP."

high at 5.7%. In 2006, Malaysian consumers on average, made only 0.7 transaction via direct debit and credit transfer and 0.2 transaction via debit card transaction as compared to 84.7 and 109.5 transactions, respectively, in Sweden. Hence, more needs to be done to raise the level of adoption of electronic payments.

In this regard, the Bank has formulated an Electronic Payments Roadmap aimed at bringing together relevant stakeholders to address the barriers that have impeded the increased adoption of electronic payment in a comprehensive and strategic manner. The Roadmap identifies the priority areas that require attention and collaboration to promote an environment that is conducive for greater use of electronic payment in financial transactions.

Firstly, is the need to put in place the payment infrastructure. The infrastructure for making payments would need to be widened and enhanced to provide the convenient access to electronic payments. In addition, solutions need to be developed to enable users to integrate easily with the payment offerings. Secondly, the product range, the range of services would need to be expanded to cater for the different payment needs of consumers and business sectors. Thirdly, the pricing framework, the formulation of a transparent and cost-effective pricing framework is important to provide the incentive structure that would

spur the adoption of electronic means of payments. Fourth, is the consumer awareness. Programmes need to be implemented to inculcate the behavioral change among consumers. There needs to be trust and confidence in the electronic payment systems. The fifth area relates to the standards, the setting of common standards to address the interoperability of systems including standardising the payment messaging format is vital to the wider acceptance of electronic payment. Finally, is the need to ensure the security and integrity of the payment system which thus requires the supporting regulatory and legal framework to be in place.

Among the series of initiatives that have been implemented to promote the greater use of electronic payment relates to the leadership role of the Government in the migration to electronic means of payment. As most individuals and businesses have payment transactions with the Government, the role of the Government in accepting electronic payments has provided an important catalyst for the adoption of electronic payment on a national scale. In this regard, Bank Negara Malaysia has been in active partnership with the Government to drive the electronic payment agenda. This has also served to reinforce the Government's objective to enhance the efficiency of the public delivery system. This collaboration has resulted in the acceptance of the use of cards including the ATM card, which also functions as a debit card, for over the counter services and the offering of payment services via Internet banking and the Internet-based Financial Process Exchange (FPX) payment system.

Another initiative undertaken has been the review of the remittance and e-money regulatory framework to encourage the introduction of payment products that would cater for the unbanked and underserved communities such as migrant workers and consumers with low income and low financial literacy and who may have no alternative but to rely on informal payment service providers. There are now more than 20 new remittance and mobile payment products that have been launched.

The Bank has already engaged the relevant stakeholders on the priority areas identified and welcomes any further industry efforts to address these issues. Given the significant pay-offs from the low cost technologies in accelerating the adoption of electronic payment, the mobile phone is identified as one of the delivery channels that should be leveraged on.

Potential of mobile phones to make the transformation

Bank Negara Malaysia sees tremendous promise in mobile telecommunication networks as an electronic payment channel since mobile phones are already in the hands of most Malaysians, with 88% of the Malaysian population subscribing to mobile phone services.

The high penetration rate affirms mobile phone networks as an increasingly popular channel for Malaysians to perform a plethora of activities beyond voice communication, encompassing all forms of digital communication, commerce, banking and payments. Indeed, payments via text messaging has the potential to grow in importance.

With 25 million mobile phone subscribers in Malaysia, there are immense opportunities to leverage on mobile phones to accelerate the migration to electronic payments, to widen the reach and appeal of electronic payment services, to deliver innovative mobile payment products that offer speed, simplicity and convenience at minimal cost for the public, as well as to provide an efficient and cost-effective method of delivering financial services even in the remote areas. Also of significance is the high level of financial inclusion in Malaysia. With a population of 27 million, the banking system in Malaysia has 55 million deposit accounts indicating that a high percentage of the population have deposit accounts with the banking system. This is confirmed by a survey of a sample of 5,000 in 2003 that indicated 97% of those surveyed have a bank account. The financialisation of savings is also confirmed by the high percentage of deposits to GDP at 152%.

The high percentage of mobile phone subscriber and the high rate of participation of the population in the banking system are important pre-conditions for the significant use of the mobile phone as an ideal platform for personal payments. Indeed, the large mobile subscriber base and the positive transformational effects of mobile banking and payments offer a unique opportunity to open up the financial system to more customers and communities, in order to achieve financial inclusion for all segments of our society.

With the favourable market conditions, various mobile banking and payment initiatives have been launched in recent years. This however, has yet to achieve widespread acceptance. To date, there are only 460,000 subscribers for mobile banking and payment services. This represents only 1.8% of the 25 million mobile phone subscribers in the country. There is, therefore, a significant untapped, and potentially lucrative market for mobile payment and banking services.

Pushing mobile channel beyond the tipping point of development

There are fundamental issues that need to be addressed if we are to realise the opportunities and allow Malaysia to take full advantage of new mobile technologies. To achieve their full potential, it is important to identify the gaps in

the service offerings, and plan the way ahead for Malaysia to make the quantum leap in e-payment adoption. Market participants need to address the mismatch between what consumers expect and what is being offered. Openness and inter-connectivity are also critical in the mobile banking and payment initiatives. Exclusive and proprietary services where the target market is limited to the customer base of individual mobile operators or individual banks will not allow for the potential to be realised. Any lack of interoperability across mobile operators and across banks will not achieve the required critical mass and will also result in high transaction cost for consumers.

It is hoped that market participants will be able to offer new and innovative mobile payment products and services that opens up new markets for mobile service providers and payment operators, offer the convenience at reasonable costs and thus deliver the cost savings and efficiency gains that consumers and businesses seek, and thus allow for the economic benefits to be realised.

Industry players also need to work together. An area that needs critical attention is for the industry players to focus on the bigger picture and regard the mobile phone as a mechanism towards achieving a common goal. To promote the significant use of the mobile phone for financial services, the industry has to respond rapidly to address the need for interoperability and collaborate in areas such as developing a common infrastructure, common payment messaging format, as well as common security and authentication standards. Common standards and infrastructure will create an accessible, open and vibrant payment eco-system that will attract a wider consumer base allowing all market participants to reap the benefits of a larger customer base. A shared integrated network with common security standards and common messaging standards will make it easier, more cost-effective, and more convenient for consumers, merchants and service providers to execute and receive payments, thereby increasing the attractiveness of the mobile network as a payment channel. Such collaboration will also lead to greater innovation and increased productivity that will contribute to the overall effectiveness and performance of the mobile payment system.

In delivering products that the market demands, substantial investments would be required of participants in the mobile eco-system: the mobile operators, banking institutions, mobile device manufacturers, and payment service providers. Equally important therefore, is the need for all the stakeholders to ensure that investments are channeled judiciously into the areas of greatest impact. Strengthened collaboration in the key areas will minimise duplication and achieve greater resource efficiency. In this regard, there is a need to fully understand customer payment preferences. Product offerings need to meet the expectations of increasingly discerning and sophisticated consumers of payment services. Collaboration is also required in the area of education and outreach programmes to increase consumer awareness and public confidence in mobile payments.

Thirdly, regulators and market players must also share a common vision on the future mobile payment landscape in order to align strategies and interests to achieve holistic mobile payment solutions that will widen access to the retail payment system and thus achieve a critical mass of consumers. The network externalities and the social benefits of the wide adoption of the mobile banking and payment system provides justification for Governmental intervention. The Bank together with Malaysian Communications and Multimedia Commission will work towards providing the appropriate environment for economic development and to catalyse the transformation of the mobile initiatives. This will also include engagement with the market participants, payment service providers and industry players to collaborate in these important areas.

Finally, for mobile payment products to succeed and achieve widespread acceptance, we need to strengthen consumer confidence in the safety, security and reliability of mobile networks as a means for consumers to access financial services. Indeed, mobile digital signature, which ensures the confidentiality, authenticity and integrity of payments initiated from mobile phones, is one of the ways forward towards building a secure mobile infrastructure that is conducive for the delivery of financial services.

Conclusion

We are now operating in an environment where we have to do more with less. The point I would like to stress this morning is that in the pursuit of this cause, we have to learn to work together. We need to come together to decide how this cooperation can be shaped. I believe this symposium will contribute towards achieving this objective. In this regard, I hope that the results of your deliberations in this symposium will provide valuable input for the formulation of strategies and modalities for both the industry and authorities. On that note, I would like to thank Malaysian Communications and Multimedia Commission for this opportunity to share my thoughts on electronic payments. I wish you a stimulating and productive discussion in this symposium. .my

Teong Teck Lean

When Carrying Becomes A Calling

When Teong Teck Lean, Executive Deputy Chairman of GD Express Sdn Bhd agreed to take on the helm of the company in 2000, little did he know that he would also be taking on the behemoth task of trying to change a whole industry.

GD Express formed during the nationwide economic downturn of 1997 was tethering unsteadily in the year 2000. The founders though very positive about the business, just could not seem to put it together. A chance conversation with an acquaintance would change all their lives and put the company back on track. That chance conversation was with Teong Teck Lean.

Eight years after the fact, we too have a conversation with the man who took on a company and is now creating waves in the express carrier industry.

Could you tell us a little bit about your family and educational background?

I grew up in a small village, Kampong Merbau in Perak that didn't even have proper water and electricity. We were a family of ten and I had seven brothers and sisters. We were landowners, supervising the tilling of land for agricultural purposes.

I must admit that it was a time of great hardship as even from a young age we spent our time tilling the land but it is probably this very hardship that taught me how to be so focused and to appreciate anything that I have.

I was fortunate to have parents who were quite forward thinking. While we kids were still young, my parents divided the land between us to give us our respective shares. And this piece of asset is what allowed me to further my studies. I sold my land to pay for my engineering studies in Canada.

I guess I have always had a respect for land. And this respect is probably why years after I had given up my first land to better myself, I made it a point to acquire land and work it with my own hands to build an orchard for my own family. Besides, working the land is a great stress reliever and the only kind I indulge in. I also harvest my own honey here. There is nothing like toiling the land to remind me who I really am and where I come from.

From engineer to entrepreneur, how did you make the transition from one to the other?

Actually, in between the engineer to entrepreneur, I was also a stockbroker for many years. When I returned back from my studies, my first job was as a process and product engineer for Texas Instruments in 1984. In my capacity as an engineer, I had to ensure that the quality and processes were well run and that programs that were put in place, fit in with the performance standards for the kind of yield that was desired. You have to remember that this is one of the most quality stringent companies in the world today, everything has to be precise.

This was my training ground to further teach me how to be more focused. The salary wasn't much but it did give me the opportunity to learn how to get things done and started me asking questions engineers normally don't, like cost and how is this going to make money. As these thoughts came into my mind, I realized I needed to move on to a job that gave me more mobility.

This brought me to Lembaga Letrik Negara (LLN) or better known today as Tenaga Nasional as a consumer engineer. And with it I learnt a whole new set of skills. Over at LLN, it was all about people.

After four years, I was itching for change again. This time I tried some ventures on my own but they didn't pan out. In the next year or two I started to understand the capital market a bit better. I joined OSK Securities Bhd as an Institutional Dealer trading with institutions and high net worth individuals in 1990. It was during this time that I learnt how companies actually come into being and how they raise capital. As a result, I also got to know a lot of bankers, fund managers and entrepreneurs who shared with me how they run their businesses.

The early 90s was a great time for the capital market. A lot of people were making money during this time and this gave me the opportunity to accumulate some money. Coming from a poor background, I have always been quite thrifty with money, so I saved most of my money. Of course, my ex-colleagues would beg to differ.

They just thought I was stingy. They used to laugh at me because I never even bought a new car. I was just trying not to be wasteful and it was probably a good thing too because when the time came for me in 2000 to have some ready capital... I did.

For someone who had no knowledge or experience in the express carrier industry, it must have been quite a gamble taking on the reins of GD Express. Weren't you worried that you were taking on more than you could chew?

If you asked me 10 years ago if I would be starting this... the answer would probably be a resounding "no". I can't imagine going back 10 years and thinking I will one day be an entrepreneur. But I do believe in destiny... and I think I found mine.

It was always a dream that someday I could be an entrepreneur. So when the founders of GD Express agreed to let me buy them out and lead the company, I took it as a calling and took up the challenge.

I knew that when I took over the company, we would have to go back to the drafting board and re-do everything because the company needed a lot of changes. The first thing I needed to do was understand the business and understand what the problem was. Then I needed to get the people to buy into the new ways of doing things. I think that was the toughest challenge. Instead of using IQ, I needed to use EQ to get my message across and if I failed my mission, I was looking at bankruptcy and that was not an option. And being a small company, there were also a lot of guarantees to sign. So for the first couple of years I had many sleepless nights.

I knew I needed to assemble a very strong team and I knew I needed to do it fast as for our type of business, a strong team is essential. The first thing I did was engage a consultant from Singapore to assist me in re-structuring the company. After a couple of months, I managed to convince him to become my partner. I think it was harder to get Leong Chee Tong as my consultant than as my partner as he was more used to running big organizations than a small one like ours. I was also fortunate to have one of the founders, Yong Phie Loong to agree to stay on as Head of Business Development.

It actually took us about two years to bring the company around. The first six months was getting to know the business and find out what the problems were. The business no doubt looks very simple but it is a lot more complex than it looks. The success of GD Express is not mine alone but also the employees and the industry itself. Everyone played a part in getting us to where we are.

It was hard going but after the revamp, we have a yearly growth of about 30% and in 2005, we managed to get ourselves listed on the Mesdaq Market of Bursa Malaysia. Today, GD Express operates a network of 93 stations, comprising 51 branches, 3 affiliate stations and 39 agents throughout East and West Malaysia. We have a fleet of more than 250 trucks and vans and in 2003 we were the first local express delivery company to obtain ISO 9001: 2000 (Quality Management System) certification for all its entire 25 departments. Not bad for a company that was on the verge of collapse just eight years ago.

You are currently the President of the Association of Malaysian Express Carriers (AMEC). What is the outlook of the industry presently and what are the ramifications for the industry in the changing business environment?

Courier service has become an essential service for most organizations. A lot of people in the industry are getting more proactive in putting in the effort into this type of business. If you can satisfy the expectation of the users, you will get a very huge demand. However, this is an industry where you need a lot of capital. You need a large fleet of trucks and a lot of computer networks connected to your branches and stations so that your information becomes more seamless and synchronized.

The industry is becoming more relevant everyday. The key words are speed, cost savings and reliability. We are helping customers save a lot of cost. It is far more expensive and time consuming for companies to deal with their own deliveries instead of consolidating their deliveries.

There are still a lot of areas for improvement within the industry before it can reach its full potential. First, the industry needs to get more committed to making the necessary investments so that the service network can be rendered properly to customers. Secondly, we need a more level playing field with our competitors from other industries through the cooperation of the relevant government agencies and associations. We must be able to tell them what it is that we need to move forward. I do see some initiatives taken by MCMC in this area by providing us a platform for us for dialogue.

The Association has 24 members and is trying to play its part in making our industry relevant and useful. We cannot demand that customers see us as important to their businesses, we have to make ourselves seen that way through our endeavours and cooperation with each other.

My vision for the industry is for it to get due recognition and become an essential service for the country and the nation. And of course, I hope that GD Express will become a good role model in this. .my

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Experiencing Personalized Life with Global Reach

Dr. Lee Sze Wei of MMU paints an engrossing image of what life would be like in the not too distant fully digital future as well as introduce the Model Digital Home at MMU.

The term 'connected world' has been a favourite catchphrase of many over the last few years. There's no denying that impressive progress has been made as a result of rapid advances in communications, information and multimedia technologies and that the world is certainly very much more connected these days.

However, it still is not a fully connected world. When one sits down and examines the situation dispassionately, it becomes obvious that a fully connected world is not quite here yet.

So called convergent devices like mobile phones are still isolated stand alone devices that won't talk to any digital cameras or TVs nearby. At homes and offices, appliances are again mostly stand-alone with limited interconnectivity and coordination among the devices and appliances.

Even networks are not that connected. Within areas, regions and the global space, telecommunication systems are separated into public switched telephone networks (PSTNs), mobile phone networks, Internet access and data transfer networks, etc. All operate in separate pockets of space and are connected tenuously in somewhat inefficient ways.

Nevertheless, it is now possible to see what a fully digital and connected world would look like. Links and integration among the different spaces would bring about many new possibilities and conveniences unimagined before. Imagine what life would be like if we can use our phones to interact and control all appliances at home. Imagine if it could help us track the grocery stock in our kitchen and at the same time interact with our bodies to keep track of our health conditions? In the not too distant future, much more will become a reality.

A high tech digital white-board feature prominently in the SOHO area. Video conferencing allows parties elsewhere to see what's on the whiteboard.

The digital revolution will transform every aspect of our life; from our personal space to our home and office space. Areas, regions and the world itself would be transformed.

The possibilities of the futuristic lifestyle are endless and we are not even talking of the fantastic yet. Almost all the possibilities that will be outlined in the following paragraphs have been demonstrated to work.

The Future

One encompassing feature that will become ubiquitous will be the intense linking of living and non-living objects. Imagine being able to transmit the sense of smell and even emotions across regions. Your online friend in Britain cannot imagine what a durian smells like? No problem, just send him a whiff through your PC.

Remote sensing and monitoring will become personal too. Medical specialists would be able to monitor and diagnose health problems remotely. Imagine not having to go to a clinic when you are feeling unwell. The personal systems of the future will monitor a person's lifestyle closely and make suggestions to enhance health and enjoyment. For example, if someone is unable to sleep, the system could provide a soothing atmosphere or video to help the user fall asleep. A centralized home assistant could suggest suitable attire or food to the user.

Screen such as this one are found in many areas in the house. Touchscreen features provide ease of use.

The home will generate its own power through various methods: solar, wind and even kinetic energy through the user's movements. The power generated could be used to power up electrical devices and the extra "juice" could even be pumped back into the Grid. There could even be a system to measure the "Environment friendliness" of the community.

Lightings would never be the same again. Homes could be transformed into virtually anything. Through the use of holograms, intelligent lightings and projection systems, a home can be turned for example into a forest environment with just a click of a button. There's more good news: a robotic maid would perform all household chores.

Artificial Intelligence would become pervasive on machines and that will enable them to interact and respond to the surroundings. For example, when a phone call is incoming, the home's music Hi-Fi system will lower down its volume automatically.

Intelligence would be everywhere. Alert systems would monitor everything and help prevent tragedies by alerting people and authorities of exact locations and details of life threatening situations like fires. These systems would be able to identify moving objects by their behavior. The system could, for instance, identify whether a person is trying to break into a house, or is just walking-by.

Virtual Learning centres will be developed; these will be places where expertise is accumulated and presented in a virtual way to enhance and speed up the learning process. Like homes, schools and workplaces will change dramatically.

In short then, the possibilities are endless.

Technologies

The technologies that would make all these happen are already here; they just need to evolve a bit more.

Communication technologies, both wired and wireless, would be among the key enablers of the digital revolution. The demand for bandwidth will continue to grow to cater for the demands of highly intelligent and connected systems. Additionally, the new lifestyle will also require high and seamless mobility.

Electronic and VLSI technologies are also playing a key role. The constant advances of chip making technologies and the creation of ever smaller and yet more powerful processor chips are creating the brains of future systems. At the same time, network and data security will be strengthened far beyond what it is today. With more personal confidential data to be transferred over networks, there will be a need to have much more secure network and data security systems.

Beyond hardware and communications technologies, the main differentiator of future technologies will be in software. Thus software design methodology, technology and capability will be increased

significantly. It is worth noting that ultimately it will be humans that drive the future. The improvement of human life will cease when imagination stops. Innovation will never cease and because of that, even what we described above will be superseded by more wondrous advances in the future.

Model Digital Home in MMU

A tripartite partnership is behind the Model Digital Home at MMU.

From the outside, the building that houses the Faculty of Engineering at MMU looks just like any campus building in Malaysia. Much of the inside is no different with classrooms and lab areas everywhere.

Only one area looks conspicuously out of place, but in a nice way. About a thousand square feet of space has been remodeled into a modern looking apartment. There's a cozy living room, a bedroom, a kitchen and a spiffy looking SOHO work area and no, this has not been set up for the illicit enjoyment of lecturers and students. This apartment happens to be the Model Digital Home that has been set up to spur research and showcase what a fully connected life could be like.

One of the many goals that SKMM has been entrusted with under the MyICMS strategy is the National Digital Home initiative. To spur work in this area, SKMM appointed MMU as the host of the National Digital Home initiative sometime around September 2007. MMU is also the site of the National Centre of Excellence (COE) on Digital Home Technology.

MMU is tasked to research and develop technology and its potential uses for realizing a digital and intelligent

Government's Policy and Initiatives on Digital Home and Lifestyle

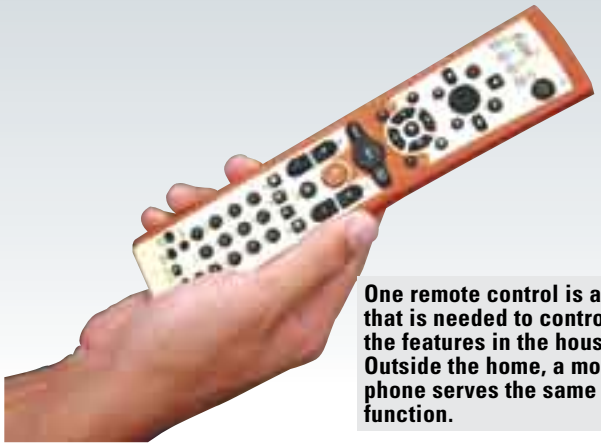
The government, mainly through the MyICMS886 national strategy, has been the main driver of the digital future. The services, infrastructures and growth areas pursued under this strategy will drive multimedia and communications growth in Malaysia.

The digital home is a specific initiative under this strategy. The MyICMS blueprint has the following goals and timeframe:

- 2006: Home Gateway / SOHO Introduced in 60000 homes
- Medium term (2008): 500,000 homes interwork with external networks
- Expected Result (2010): 1 million connected homes

The specifics of the Digital Home listed in the MyICMS blueprint are:

- Networking technologies to integrate appliances, devices and services within the home.
- Control and monitor the entire living space from within the home as well as from remote locations.
- Connectivity between terminals / appliances through Broadband over Power Line (BPL), WiFi, Bluetooth, etc.



One remote control is all that is needed to control the features in the house. Outside the home, a mobile phone serves the same function.

personal and home lifestyle. Cost effectiveness and feasibility factors were to be also considered so that the fruits of this endeavor could see wide scale implementation.

The model home was set up through a three party SKMM-University-Industry collaboration arrangement. SKMM provided the funding and support to initiate work in this area. The industry came together to provide equipment and further funding support for prototype development and model home setup. The university provided the space for model digital home and its faculty and students carry out R&D work and prototype development for the digital home.

The Model Digital Home

The first phase of the project which saw the model home being built and various intelligent systems put in place has been completed. Visitors will experience state of the art living enhancements throughout the apartment.

These enhancements will be easily controlled by its occupants. The prevalence of digital gadgets and appliances in homes has led to an increasing number of stand alone remote controls in most homes today. The Model Digital Home has just one; a smart remote control system that can interact with just about any device in the home. The home automation, security, TV remote, Astro remote, Hi-Fi remote will be replaced with a single remote control.

IP cameras are found throughout the house and their sensor technologies help the system keep track of movement of people in the house.

All control lightings and switches can be reached through this remote control. The system is smart enough for it to be reached from outside the home through a mobile phone, allowing the owner, for example, to switch on the air conditioner in the bedroom before he reaches home.

The automation system is implemented in such a way that no electrician or rewiring will be required. In fact, the aim is for an easy DIY automation system which could be self installed using off the shelf hardware.

The future occupant of a home like this would also be able to control hardware using hand gestures by wearing a glove equipped with sensors. A simple hand wave could then be used, for example, to switch off lights in the home.

Enhancements have been made in just about any area of the occupant's life in this home.

Personal Space/ Recreational Space

There is no lack of media content in this home. An Astro Max system with 80GB capacity or 60 hours video recording can do scheduled recording of shows. An IPTV system will bring additional content into the home.

The Follow-Me-Media feature would be very welcome by anybody. Any music, video or TV program that is being shown will "follow" the occupant wherever he moves. For example, music or video in the living room will follow the person when he/she moves to the kitchen and bedroom. The "follow" me will also be personalized for each occupant. It is interesting to note that the cost of such an impressive feature is already within the reach of the public.

Occupants in the home would be identified and tracked through their mobile phones. Bluetooth technology would identify where anyone is at any time. To get people fit, the home also has a Wii Fit gaming system in place that makes players actually move according to the game. It also goes without saying that there will be personalized news, music, lighting and video for each tenant.

For decoration, there are digital photo frames that can be updated with the latest sets of pictures dynamically. Even better is the possibility of personalized photo displays that show different sets of pictures for each individual occupant in the household.

Life won't be lonely too in this home as a digital pet like the currently installed Nabaztag rabbit with AI technology built in will be a welcome companion. This digital gadget can read news, play music, and also engage in instant messaging with other similar pet owners around the world. It also features speech recognition and replaces the alarm clock.

Home & office space

The home office is not neglected in this undertaking. The SOHO work area will have a high definition projector and smart interactive white board. Video and tele conferencing is a given and the white board will be visible to other parties through the Internet. This would be done through high speed streaming with the 4Mbps Streamyx Internet connection.

There will be lots of screen throughout the home with every system available on each one of them. For example, one could view the CCTVs mounted throughout the home at any screen anytime.

Intelligent devices like the Nintendo Wii fit provides entertainment and exercise.

Kitchen

The kitchen has so many features installed that it almost is the best place to hang around the in the home. There is the Digital Refrigerator with LCD screen featuring Internet access and videos. An RFID system will check the contents and tenants will be able to get nutrition facts as well as the expiry dates of the food inside the refrigerator.

The same system will automatically detect and track the items in the fridge and notify users if a certain item needs restocking etc. Items such as food, drinks could then be purchased online through an automated ordering system.

Another touchscreen on the wall allows simple Internet access. Getting recipes from the Internet will never be a problem here. A lot of touchscreens are utilized throughout the home with the aim of simplifying interaction with the system.

The intelligent system

Many technoloies have come together to make this home a reality. As mentioned there is a wired landline with 4 Mbps Streamyx (SOHO) connection. WiFi wireless technology is deployed throughout the home. Also to be found is Z-Wave wireless home automation technology.

A simple network PC server runs everything. Everything is controlled through an easy to use web enabled interface. The software is based on the open source LinuxMCE operating system. Scattered all over the home are IP based cameras, RFID tagged devices, Z-wave controllers and switches etc. A Cisco network security system protects the home network server.

A regular PC running on open source software runs the smart features.

The Future

Work on the digital home does not end with what is installed currently. A lot of research and development work is just starting and it will bring even more advanced technologies into the home. The team will continue development and software work using the open source LinuxMCE all-in-one digital home operating system. Web-based solutions will be integrated with the Internet to solve common household problems.

More work will also be done in the area of semantics: Making the digital home smarter whereby it could be aware of its surroundings and communicate with other devices in the home, as well as be a personalized assistant to the occupant.

Controls will continue to be enhanced with more virtual control devices like the Virtual Glove. The team will research into using brain waves too. This would provide a more interactive and natural way to control devices in the house or even as an entertainment tool. Another very important area that will see more work on is the increasing need to implement energy saving features.

Taking it mainstream

Most of the features seen in the model digital home could be implemented in homes even today but the cost of doing it would be prohibitive. Right now, not every worker and even every IT staff could implement the system. The need to utilize very tech savvy people will raise the implementation costs. The cutting edge devices and appliances also cost a lot presently.

But the future will be different. The cost of appliances and gadgets will drop sharply over time. The stated aim of the Malaysian Digital Home team to work towards easy to install DIY systems would bring costs down sharply too.

There is still a lot of work to do but the progress thus far is impressive. The team is also following developments in countries like Japan and Korea. However, it is also ensuring that the smart digital home it is creating for Malaysians will be custom made for the Malaysian lifestyle. .my

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SKMM CATI Centre

SKMM's Computer Assisted Telephone Interview Centre has been instrumental in making available key C&M statistics beyond the basics since 2004. Koay Hock Eng takes us behind the scenes.

Before 2004, all statistics pertaining to C&M, be it cellular mobile penetration rate or Internet penetration rate, were based on administrative records of the service providers. As service providers maintain only the barest of records, it is to be expected that indicators derived from these records were limited to the very basic national penetration rate and subscriber numbers. This is especially so in cellular mobile when prepaid mobile was at that point of time still unregistered. This was also the case in prepaid dialup Internet. Another weakness in relying on administrative records stems from multiple subscriptions to different or the same service providers by the same consumer leading to double counting. Needless to say, it is well-nigh impossible to even surmise at gender specific or urban and rural penetration rates.

As part of its regulatory functions, SKMM is obligated to monitor industry performance and report to the Minister of Energy, Water and Communications at the end of each financial year. Such reporting would undoubtedly include a statement of the state of play in each industry. But the industry has grown beyond the basics and for meaningful reporting, basic penetration rates at national level will no longer suffice. This is especially critical considering that SKMM oversees the equitable access to C&M across all social strata of society. Thus a need was felt for statistics and indicators beyond what is available from administrative records. Apart from this, SKMM has, from its inception, served as the authoritative public source of industry statistics in Malaysia; and public demands for data have also moved beyond basics. For these two reasons, SKMM had to embark on a proactive stance to collect data, particularly socio-economic data, directly from demand side to fill an increasing need; a need that cannot be filled by administrative records. In other words, SKMM had to start conducting its own surveys.

The need to do surveys was entrusted to the Research and Planning Division which is also the division responsible for knowledge resource and publications of SKMM. Within this division, the Statistics & Knowledge Resource Department was the department coordinating statistical activities and this function was subsequently expanded to include the conduct of surveys.

The method of choice for the conduct of surveys, taking SKMM's resources into consideration is the Computer Assisted Telephone Interview (CATI). This raised some concerns when it was first suggested, considering that the

household penetration rate of fixed lines at that time was only around 52 percent, that of mobile cellular around 57 percent while that of Internet was only 11 percent. These concerns would be real if one were to do a conventional household survey as the low household penetration rate will not enable SKMM to reach a representative sample of households. However SKMM was not about to do a household survey. All it wanted was to reach out to households that had a fixed line (as opposed to all households) or individuals that had a hand phone (as opposed to all individuals) in order to collect socio-economic data as well as usage data from these groups. Estimates made from such surveys can then be combined with population estimates of relevant demographic segments to yield very specific penetration rates. For example, the number of female hand phone users can be estimated from a CATI survey covering all hand phone users. Relate this to the number of females in the population at the same reference date and that would yield female mobile cellular penetration rate! The Internet households could also be reached, as at that point of time. Internet access was 99 percent dialup or ADSL. Both require a fixed line and that brings them within the reach of SKMM CATI Centre.

Advantages and disadvantages of CATI

Using CATI to conduct surveys has many advantages. Telephone interviews are a very cost efficient means for collecting data. It is a lot faster to contact people over the phone. Interviewers need only be at the CATI centre meaning a lot of travelling time is cut because the interviewers would be able to move on to the next respondent almost immediately after finishing with one. Face to face interviews will cost far more and take up much travelling time.

Telephone surveys are also safer from all angles. The people being interviewed need not worry about opening their doors to strangers purportedly conducting a survey; interviewers too face less unpleasantness such as having doors slammed in their faces or having to contend with dogs! All interviews are carried out over the phone in the air-conditioned comfort of SKMM CATI Centre.

With the use of a CATI system, data can also be captured directly, going straight into secondary storage in the server or master PC. There is no need for data to be keyed in, in a separate exercise. In fact, when interviewers are on a CATI system, and provided it is a very simple survey that requires minimal data cleaning, the results can be available minutes after completing the last interview.

Skilled CATI interviewers can often elicit longer or more complete answers than people will give on their own through mail surveys for instance. Interviewers can also probe and seek clarification for unclear responses.

Telephone surveys do have disadvantages too. For example, many telemarketers have given legitimate research a bad name by claiming to be doing research when they start a sales call. Consequently, many people are reluctant to participate in telephone interviews.

Chairman exhorting CATI interviewers to keep up the good work

Another problem is the growing number of households where both spouses work. This may mean that no suitable respondent is at home during the day. This limits calling time to, say, from 7 pm to 9 pm; not quite the ideal time as families would be settling down to dinner or watching prime time TV.

Phone surveys, of course, will also not work in cases where respondents are required to see or try new products such as new mobile phones.

Understanding a CATI system

A CATI centre goes beyond phones and people. CATI technology uses computers to automate the key activities of telephone interviewing. However, before this can happen the paper questionnaire will have to be scripted so that the system can read, understand and implement the logic behind the questionnaire.

A good CATI system can control the survey questionnaire that an interviewer will use. Interview questions are recalled in a predetermined sequence and displayed for each interviewer on a computer monitor. Interviewers read the questions to respondents and click in or enter answers provided by respondents. Most CATI systems can handle skips and pipe answers to one question into the text of

Training for CATI interviewers

another related question. For example, if based on an earlier answer, a question is to be skipped, the system will cause that particular question to be skipped taking it out of the hands of the interviewer. This improves internal consistency. Thus the system is intelligent enough to guide the interviewer through the questionnaire following the logical route set by the answers given by the respondent.

But interviewing is just a part of the CATI automation process. A good CATI system will also handle the administrative and telephony functions associated with surveys, such as sample management, productivity reporting, interviewer monitoring and rating, watch functions and voice capture. Phone calls and callbacks can be scheduled and an administrator can virtually decide what each interviewer will do for the day.

Arising from these functionalities, CATI centre administrators have at their finger tips accurate up to date reports on all aspects related to the smooth conduct of surveys.

SKMM CATI Centre

SKMM CATI Centre was approved in January 2004 and became operational in July the same year from Wisma SunwayMas, Shah Alam. It is a 20 seat CATI Centre powered by NIPO CATI Solution of Amsterdam and was established at a cost of RM 250,000. The first survey to roll out of SKMM CATI Centre was the SKMM Hand Phone Users Survey 2004 at a cost of RM 50,000. Considering the myriad penetration rates useful for tracking and monitoring as well as the trends in hand phone usage that it made available, the SKMM Hand Phone Users Survey 2004 fully justified its cost.

Since then, SKMM CATI Centre has not looked back; it has been playing a central role, gathering valuable data to meet the many needs of SKMM and other users.

Earlier this year SKMM CATI Centre moved to Wisma Pahlawan in Kuala Lumpur. The new centre was opened by the Chairman of SKMM on 19 April 2008.

SKMM CATI Centre combines state of the art technology and well trained personnel. SKMM CATI Centre utilizes a mixture of full time and part time staff. Full time staff include supervisors and administrators. These persons are given extensive training on the finer workings of the CATI solution. They are fully knowledgeable about creation and conduct of surveys. Regular training helps them keep abreast

The actual interviewers are part-timers drawn from a pool of about 20 when SKMM CATI Centre first started. Over the years and after several recruitment drives and surveys the pool has now grown to around 60 trained interviewers. Most of them hold the SPM (equivalant to O-Levels) but increasingly, many have degrees under their belts. These interviewers receive extensive training. The training is split into three areas. They will first receive a full briefing on SKMM and its role in the industry. This is to ensure that they can answer questions on the organisation from respondents wanting to know who is behind the survey.

The interviewers will then undergo subject matter training for each survey, so that they understand fully the subject matter of that particular survey. They will know issues on the subject so that they understand the purpose and the intent of the survey. They will then be taken question by question through the questionnaire. Each term used is explained to them so that they can in turn explain to the respondents if required.

The most important training portion is the final one where they are trained on telephony and interviewing skills. Using an in-house manual, these interviewers are transformed into professionals trained to conduct surveys, minimizing refusals and maximizing completes. This entails sticking to a script, yet sounding conversational enough to evoke cooperativeness, probing and handling difficult respondents and dealing with just about any situation over

Chairman observing interview

Hand Phone Users Survey reports

Household Use of the Internet Survey reports

Users of CATI Data

International Users
International Telecommunications Union (ITU)
United Nations Conference on Trade and Development (UNCTAD)
United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)
International Trade Missions / Embassies / High Commissions

Local Users
Economic Planning Unit
Ministry of Finance
Ministry of Energy, Water and Communications
Ministry of Science, Technology and Innovation
Prime Minister's Department
National Statistics Department
The Malaysian Cabinet
Parliament
Bank Negara Malaysia
Ministry of International Trade and Industry
Malaysia Industrial Developement Authority (MIDA)
Multimedia Developement Corporation (MDec)
Association of the Computer and Multimedia Industry of Malaysia (PIKOM)
State governments
Researchers
Universities

a phone line. Training is complemented by mock sessions to further hone their skills.

When the SKMM launches a survey, the best interviewers from this pool are contacted and invited to take part in the survey. A refresher course is mandatory prior to beginning work. Their performance in each survey is monitored and evaluated. SKMM maintains very high standards in this area and interviewers who do not make the grade are dropped from its pool.

Every year SKMM CATI Centre carries out regularly scheduled surveys. Among the surveys held annually are the Hand Phone Users Survey and the Household Use of the Internet Survey. Respondents are chosen using a technique called Random Digit Dial (RDD). This technique yields a statistically representative sample from the target population. The surveys are designed to reveal the latest usage patterns as well as more specific penetration rates in mobile cellular and household Internet access respectively. Survey findings are normally published in the form of survey reports.

Many bodies, locally and internationally use the data compiled through the SKMM CATI surveys.

The SKMM CATI Centre has received widespread interest and it regularly receives delegations from bodies wanting to know more about its operations. Among others, the Universiti Islam Antarabangsa Malaysia and the Department of Statistics, Malaysia have paid visits. The centre has also received delegations from afar such as from Botswana and Brunei Darussalam. .my

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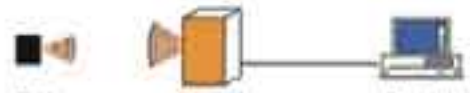
The Malaysian RFID scenario

Mohd Zahari Zakaria has the story on its current applications market and trends

Radio Frequency IDentification or its acronym RFID in particular is a fairly common buzzword among information technology circles these days. It is a small electronic device (a tag) incorporating a small chip and an antenna that enable its identification (ID) and information to be relayed to or be retrieved remotely using radio frequency (RF) via Interrogator (reader) and linked to a computer. RFID basically allows IT applications to identify, track the movement and the whereabouts of assets and people at distances below 30cm between RFID tag and reader up to as far as 100 metres depending on the types of application and technology deployed, and there are many of them.

While current interest in and publicity of RFID make it seem a hot new technology, in fact RFID concept is pretty old. The availability of newer and enhanced technologies enable the production and development costs of RFID to be competitive enough for RFID to be used in diverse applications. According to Wikipedia, a source place its first use in the 1920s, while the same source says it was first used as early as the 1920s or as late as the 1960s.



Tag / Transponder | Reader / Antenna (Interrogator) | Computer and Software / Infrastructur

RFID readers & EPC-RFID tag

Nevertheless, what is certain is that RFID was used in military applications during World War II.

For example, a similar technology was used in the 'identify friend or foe' (IFF) transponders invented in the United Kingdom in 1939 and these were used to automatically identify friendly or hostile aircraft.

RFID system basically involves two parts, namely the RFID reader and an RFID tag or multiple tags.

An RFID tag basically is an automatic radio transponder attached to the item or carried by the person it's being used to identify and track, while the RFID reader may be used in an access control system to a building or office, for asset tracking in offices, warehouses and stores, in toll gates or supermarket check out systems or anywhere that requires the tags to be tracked.

Modern RFID tags comprise an integrated circuit (IC) and a flat antenna. The IC processes information and performs modulation and demodulation of the radio-frequency signal between it and the reader and it can also contain memory for storing information on the item or person it is identifying.

RFID Tags

RFID tags come in two basic types, namely passive and active.

Passive tags are powered by radio waves from the reader which energizes the passive tags that enable it to transmit the ID and data to the reader.

Passive tags are best suited for short-range applications of below 30 cm up to several metres.

Active tags have their own batteries, which last up to five years depending on its applications, so they can be used in long-range applications such as tracking the movement of bulk assets, vehicles and persons in warehouses, military camps or oil refineries, the movement of containers in a port, track assets such as lorries, heavy machinery and so on.

For example, in high security areas such as military bases, certain hospital zones, airports and oil refineries, RFID can be used to track the movement of authorized vehicles entering the facility to ensure they go to their specific destination and that they leave the area afterwards. Alarms may be triggered if they exceed a time window or encroach into unauthorized areas.

RFID security gates

RFID can also be used to track the weapons inventory by identifying a particular weapon, such as a rifle to particular soldier and if any attempts are made to remove weapons without authorization, it will trigger an alarm. In this case the tags are embedded in the weapon itself.

Opportunity and apprehension

While technology entrepreneurs may savour the business opportunities that RFID offers, others fear its use by governments and those in authority to enhance and extend their capabilities and capacities to monitor and control their citizenry as a sort of "big brother" as depicted in British author George Orwell's book, '1984'.

While the end of the 1980s saw quite an opposite world to what Orwell describes, concerns still remain that the world scenario he depicted would come to pass later, while others with certain religious convictions, especially when implanted under one's skin, as one of many indications of the rule of the ungodly and a step towards the end of world as we know it.

There are also those who simply see it as enabling greater invasion of their privacy.

However, it appears that RFID is gaining acceptance and unless there's a big public backlash against it, it looks here to stay.

Big and growing market

The global market for RFID is big and growing. In its latest report, RFID Forecasts, Players & Opportunities 2008-2018, independent analysis and research firm, the UK-based ID TechEx Ltd, forecasts that the global RFID market will be worth US$5.29 billion in 2008, up from US$4.93 billion in 2007.

These figures include the value of RFID tags, readers, as well as software and services for RFID cards, labels, fobs and all other form factors.

ID TechEx expects the global RFID market to grow to $26.88 billion in 2017, including new markets that are being created, such as for real-time locating systems, itself expected to be worth over US$6 billion in 2017.

The tagging of pallets and cases as required by retailers – currently mostly in the United States -- is expected to use about 325 million RFID labels in 2008, but ID TechEx sees strong uptake in retail outside mandates, for example, the British department store chain, Marks & Spencer which has used well over 100 million RFID tags to date.

The tagging of farm animals is quickly taking off as more countries and territories are making it a legal requirement, with 90 million RFID tags being used for this sector in 2008, with most use being in places such as China and Australia.

Overall, 2.16 billion tags will be sold in 2008 compared to 1.74 billion in 2007 and 1.02 billion in 2006.

RFID spending in East Asia was expected to be worth US$2.7 billion in 2007, of which China will spend US$1.9 billlion or 70% of East Asia spending.

The Malaysian scenario

Malaysian technology entrepreneurs haven't been sitting still. Many are involved in implementing RFID systems and solutions, while others are actively involved in research and development of RFID equipment and software.

RFID technology has hitherto been far too expensive for commercial use until this new century, though it's still too costly to use them to tag every small item such as a soft drink can.

"With current RFID readers costing US199 each and active RFID tags costing between US$30 and US$50 each, they cost far too much to use for tagging down to item level," said Liew Chon Lian, chairman and chief executive officer of MDT Innovations, a Malaysian company which develops

The writer, who is the current chairperson of the RFID Society with samples of RFID readers, passive and active tags

level, other megastores are following suit and what MDT has achieved is the ultimate goal of RFID use in manufacturing, systems integration, distribution and end users," Liew added.

MDT Innovations received the MSC Malaysia APICTA 2007 Prime Minister's "Best of the Best" Award for their MD770R RFID Reader Module on 17 May in conjunction with the recent World Congress on Information Technology 2008 (WCIT 2008) in Kuala Lumpur.

Liew claimed the MD770R which MDT invented, to be the world's smallest RFID reader module, measuring 9 x 9 mm (smaller than a Malaysian 10 sen coin) or 1/16th the size of competing readers and at 1/20th their cost.

Instead of transmit and receive channels, the MD770R uses a resonator for transmission and reception and it's compatible with ISO 15693 and ISO 14443-compliant RFID tags.

Even before it won that prestigious award, MDT had received much interest in its RFID products from India and China, while Silicon Valley companies were interested in forming partnerships with it. MDT is on the lookout for funding to manufacture its modules in Malaysia, instead of Japan where it currently assembles them.

RFID Society

There's been a growing interest in RFID in Malaysia for several years, leading to the idea for the Persatuan RFID Malaysia or RFID Society of Malaysia being mooted about three years ago and its application for registration with the Registrar of Societies (RoS) in 2006.

To date membership comprises about 50 members, including companies from various industries, lecturers and students from Malaysian universities and personnel from government agencies. However due to some RFID applications being of a high security nature, including in national security the RoS is still vetting the membership. Until full approval, it exists in protem form but have been allowed to conduct certain activities but not to collect funds.

RFID across the world

The worldwide trend is to use RFID to track merchandise but this is still expensive but it helps reduce costs of tracking where books are in a library, as well as operational costs.

For example, RFID tagging of books allows libraries in Switzerland to let borrowers return books at night, while most university libraries in Malaysia and National Library use passive RFID tags to track their books.

Besides books, RFID can also be used to tag other modern library items such CDs, VCDs and DVDs.

One key advantage is at check out, where instead of the clerk keying in each book's library code or scanning its bar code one by one, readers can check them out themselves by using their library card in conjunction with passing a stack of up to 10 books at a time past the RFID reader.

This also allows for automated monitoring irregularities in borrowing.

For example, in Switzerland, if the system detects that a minor has borrowed an adult book, it will trigger an alarm likewise is when someone tries to borrow an especially expensive book only meant to be read in the library.

Library users tend to have the lazy habit of putting say a book on biology back onto a shelf for books on history or they selfishly secret a good book they've found in some place where other students are unlikely to find them and discovering them in manual audits is a long and tedious task for library staff.

However, with RFID tagging, staff just walks down the aisles with an RFID handheld reader, typically with a range of one metre and they not only identify all the books on the shelves but also those which are on the wrong shelves and those which are hidden.

RFID also enables the management of books to be automated by seeing which books are in high demand, those which have a high turnover rate, hence higher wear and tear and to plan their replacement cycle in advance. European libraries that invested in RFID systems have reported a good enough return on their investments to justify their adoption of RFID systems.

RFID tagging in libraries began in the late 1990s or early 2000s and the initial high cost of tags was certainly a deterrent back then but now tags are much more affordable, with prices 70% lower than back then.

Also prices of passive tags which typically cost RM15 each three years ago now cost as low as RM2 each based on quality and volume or even below RM1 for high volume.

Personal tracking

RFID tags can also be used in personal tracking of prisoners, students or pilgrims going to Mecca.

For example, university in the north of Peninsular Malaysia is collaborating with the government to test it out.

Such tagging does not involve below skin tag implantation but is implemented in a bracelet or chains worn by the persons.

Besides tracking patients, healthcare applications could also use either passive or active tags to track the movement and whereabouts of a hospital's expensive portable medical testing devices which are shared among its medical staff.

A hospital is also implementing RFID tracking of pharmaceuticals down to the box to prevent abuse and pilferage, while enabling better auditing and inventory keeping.

In safety applications, especially in factories, industrial plants or work sites, active tags could have panic button which users can press when in distress and summon assistance, such as when they feel themselves passing out due to inhalation of hazardous gases or other reasons. This has already been implemented in the oil and gas industry overseas and Malaysia will follow soon.

RFID-enabled ID cards can also be used for access control into restricted or hazardous areas in oil refineries and the system will sound an alarm if someone enters an unauthorised area.

It can also trigger the alarm if a person has not moved for too long and summon assistance, which helps prevent fatalities.

Manufacturing

Some members of the RFID Society use active RFID tags to track the movement of products at various stages of the production process to identify the bottlenecks and assess the efficiency of the production line, so they can improve the production process.

Such factories would include garment factories, where products require multiple processes to make them and where volume is generally high.

Also related to manufacturing is the use of RFID in tracking the number of palettes loaded on lorries. Tracking of individual items on the palettes is generally not yet done in Malaysia due to cost, unless the customer, such as Wal Mart demands it.

Tagging individual items would enable mass check out of supermarket items simply by pushing the trolley they're in past the RFID reader and paying for them, thus speeding up the check out process, instead of having to take them out of the trolley and put them on the counter for the clerk to check out, then put them back in the trolley again after paying for them.

However, such applications are still said to be not feasible in Malaysia yet due to the relatively low labour costs here.

Potential for growth

Overall the RFID Society of Malaysia sees huge potential for application of the technology in manufacturing, road tax, the national identity card, other identification and security cards, in secure car parking, ticketing and payment systems, as well as for tracking the movement of children in shopping malls.

RFID Access Control

For example, Malaysia could potentially have evergreen road tax disks based on RFID tags, where one just has to pay the road tax and the counter staff would just update records of payment and its validity stored within.

However, it may take between 10 to 15 years before this is viable, when prices of RFID readers are low enough for them to be issued to all inspection and enforcement personnel and it will also require re-writeable RFID tags.

There is also a plan to set up an RFID special interest group within the Institution of Engineers Malaysia, so that engineers can promote the technology, its applications and to share knowledge.

The regulator's role

The Malaysian Communications and Multimedia Commission's (MCMC's) role in RFID is to regulate its use of frequency spectrum, such as 919 MHz to 923 MHz used in Near Field Communications (NFC) or short haul communications in general.

SKMM ensures there is no harmful interference with communication systems and devices, especially by longer range RFID equipment.

Some RFID devices operate in the unlicensed ISM (industrial, scientific and medical) band, while some countries use lower frequencies to achieve longer range but these could interfere with other communication, especially emergency services and the functioning of certain equipment. .my

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Spectrum Research Collaboration Programme

Mohd Redza Fahlawi shares how various parties are collaborating on research in radio spectrum management.

The rapid advancement in wireless communications requires more radio spectrum and fulfilling demand can be greatly helped by efficient spectrum management.

Realizing this, Malaysia's communications regulator, the Malaysian Communications and Multimedia Commission (SKMM) together with designated institutions of higher learning (IHL) have agreed to collaborate in research programs that seek to find the best ways to manage spectrum usages through the Spectrum Research Collaboration Program (SRCP).

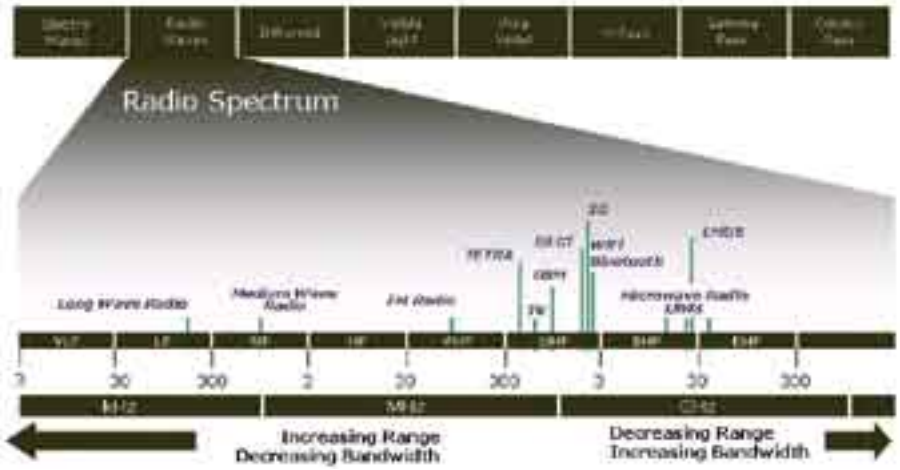
The SRCP's purpose is to improve the administrative, regulatory and technical expertise of frequency management, by promoting and funding research on spectrum related matters in collaboration with selected IHLs and industry.

While the worldwide use of radio spectrum for different services is decided by international agreement at the World Radiocommunication Conferences (WRC), organized by the International Telecommunication Union every three to four years, each member country still needs to set priority on its use based on its own national policy objectives. Balancing the spectrum needs of various parties or services based on demands from for example defense, government and public safety, private, leisure and commercial services is complex and requires high level of expertise and foresight.

Other factors like rain fade due to heavy rainfall in the tropics renders the high frequency bands unreliable or unusable for communications. Such rainfall pattern is known to greatly attenuate high frequency signals, to the extent that satellite television reception in the Ku Band (such as those used by ASTRO) is sometimes rendered impossible by very heavy rainfall over a particular area. Then there is its hilly terrain and dense tropical forest with lots of foliage as well as large area of water or sea which also effect radio wave propagation characteristics.

Research on rain fade mitigation may improve communications reliability in the high frequency ranges such as those above 25GHz in a tropical region and thus make spectrum available for high capacity links in Malaysia. Heavy tropical rain increases the propagation loss and this decreases the reliability of communications. In order to compensate for the additional propagation loss the link budget should be maintained with power

Typical Spectrum Use, Malaysia



control. Results of studies on rainfall pattern and its impact of propagation attenuation resulting in degradation of the reliability of communications and the quality of service can be used to design systems to mitigate it. At the moment, the nature of propagation at these higher frequencies makes communication possible only on short distances for point-to-point and point-to-multipoint applications (e.g. last mile access and backhauling). The International Telecommunications Union (ITU) also investigates the communications possibilities above 25 GHz in case of tropical environment and such research in Malaysia can contribute and collaborate with other researches in the ITU.

In addition, there is a need to explore new technologies and to study how it will impact spectrum use, its compatibility or sharing possibilities and constraints. Hence, there is a need to study the usage of modern wireless technologies such as satellite communications, high-altitude platform station (HAPS), ultra wideband and white space communications, and the use of software and cognitive radios and other alternative technologies.

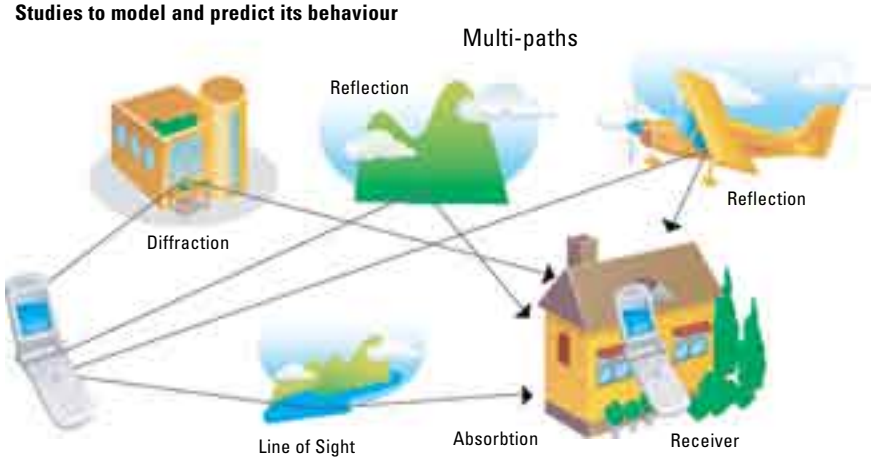
Safety of users of mobile phones is another area of interest due to the concern by the public on the Radio Frequency Radiation (RFR) emitted from the cellular Base Transmitter Station (BTS) and their own mobile phones. Their concerns stamp from the proliferation of BTS due to the demands for new wireless services and the frequent reports on its danger. Emission levels studies in our environment will put together a better perspective for the public to understand and be knowledgeable or aware on the issues. Regulatory rules can be improved as well as compliance can be increased by the telecommunication service providers to better plan the placement of the network of transmitters to minimize dangers, if any, for future deployment and development of the industry.

Besides engineering studies, the research may also venture into the social impact of the various communication technologies to the public, be it for urban communities or even communities at very remote rural locations in the country. The findings from research in this area may be used by various parties to address digital inclusion. Services can then be rolled out in collaboration with related government departments or agencies and stakeholders in order to make sure that the take up is effective and thus contribute to improve the living condition and productivity of the targeted groups.

The results or findings arising for the research or studies will be shared with interested parties and SKMM has launched a web collaboration portal to share and disseminate the knowledge as well as increase networking.

Radio Waves Propagation

Studies to model and predict its behaviour



Spectrum Research Collaboration Programme

The research program started in September 2006, when SKMM established the Research Collaboration Steering Committee (RCSC), responsible for the strategic direction, policy aspects, determination of priorities, recommendations of collaboration projects to the SKMM and approval of the annual operational plans of the SRCP.

The initiative aims to develop human capacity, support and promote research in spectrum management, encourage partnerships among universities, research institutions and the telecommunications industry, and facilitate the development of Malaysia as an ICT center of excellence.

Only Malaysian IHLs in the public and private sector are eligible to participate in this SRCP. Other organizations that are interested to participate in the SRCP shall form collaborative partnerships with IHLs wherein the IHLs shall be the lead partner.

The SRCP has the following objectives in line with the overall goal of improving spectrum management:

- Serve as a focal point of knowledge development and Research and Development activity related to the spectrum management.

- Develop SKMM knowledge resources.
- Provide platform for collaboration, sharing and exchange of knowledge, and to enhance capability and expertise to improve the management of spectrum.

SRCP Organizational Structure

The SRCP follows a project like structure, which ensures the necessary governance of the whole collaboration framework. The Research and Planning Division leads this project within the SKMM and plays an important role in terms of project management. There are three committees within the structure of the SRCP providing guidance in the collaborative process.

1. Research Collaboration Steering Committee (RCSC)

The SRCP is governed by the RCSC and chaired by the Chairman of the SKMM. Members of RCSC are selected from among members of SKMM, the Ministry of Energy, Water and Communication, representatives from the Communications and Multimedia industry, government agencies, various stakeholders and Deputy Vice-Chancellors of Universities (research).

The Steering Committee's role is to ensure the integrity, transparency and independence of the SRCP, the establishment and maintenance of world-class standards and reputation, appropriate networking of available resources, strategic direction and policy aspects, determination of priorities, recommend collaboration projects to the SKMM and the approval of the annual operational plan of the SRCP.

In addition, the Steering Committee may also modify the mandate of the SRCP where and when it deems necessary to improve the framework.

2. Research Collaboration Panel (RCP)

The Research Collaboration Panel supports the RCSC. Members of RCP consist of members from IHL and the Industry which are elected by the RCSC. The RCP advises, manages and also monitors the research programmes. Its responsibilities include:

- Identification of the Collaboration programmes;
- Identification of the appropriate existing resources available within the programme perimeter (including subject matter experts);
- Development of programmes in collaboration with the IHL committed to the implementation of the selected programmes;
- Identification of research topics and evaluation of research proposals;
- Promotion of the Collaboration Programme to ensure its goals are achieve;
- Management and administration of the Collaboration Programme;
- Coordination to optimize the use of resources within the partnership; and
- Analyses and advises the Steering Committee and SKMM on research projects and their status.

3. Research Collaboration Secretariat

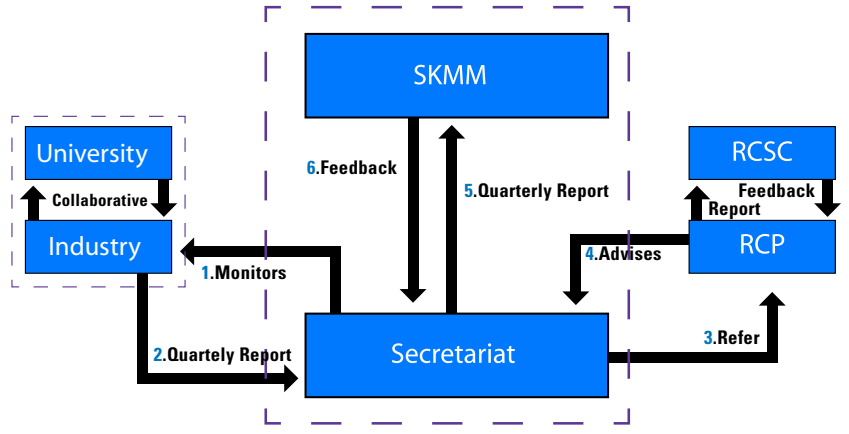
The Secretariat (also known as SRCP Secretariat) supports the RCSC and RCP. The tasks of the Secretariat also include maintenance and updates of the website for the IHL Collaboration Programme (www.spectrumresearch.com.my).

Collaboration of the parties in the SRCP

The highest level of decision-making is assigned to the RCSC with final approval of research projects resting with the SKMM. The creation of the research projects and the management setup ensures the governance and the collaboration processes of the SRCP.

Collaboration among universities and industry in the research areas is facilitated by web networking between the various parties involved. Universities and industrial participants can form Research Collaboration Clusters which may collaborate not only with each other, but also with the Research Collaboration Panel. The SRCP establishes collaborative and exchange relationships with other centres and other entities locally, within the Southeast Asian region and overseas, which are engaged in similar or related initiatives. In this respect, it is of particular importance to make use of the collaboration possibilities within the Asia-Pacific Telecommunications framework. The figure below shows

Research Collaboration Programme Management



the functional relations between the parties in the Collaboration Program.

SKMM involvement in the SRCP

SKMM allocates an annual fund for selected research and development projects. The current allocation level is RM4 million per annum. Final approval for all research and development proposals rests with the SKMM. The amount of allocation may vary every year, depending on the approved budget by the management.

The Chairman of SKMM also sits as the Research Collaboration Steering Committee Chairman with current approved projects being monitored by the Research and Planning Division of SKMM. Lecture series, conferences and other events are also organized in support of the SRCP.

In addition, through this program SKMM also helps to connect the academic sector with the Communication and Multimedia industry. The academicians could use this platform to seek information on the current trend of telecommunication business where the industry players have the first hand knowledge about it, so that they could tailor their research and curriculum to meet the actual demand. Similarly, the industry could also seek the best researchers from the local universities, to help them to conduct research to meet their specific requirements. These collaborations is hoped to further develop and increase the number of local experts in the field of spectrum.

Spectrum Research Priority Areas

Three priority research areas have been identified under the SRCP. They are:-

Emerging wireless technologies

The fast development of wireless broadband communications resulted in a greater demand for radio spectrum and the development of new technologies to cope with the increasing demand for broadband services. It is important for Malaysia to strengthen its R&D activities in these areas so to provide understanding on its impact to future use and management of spectrum. Some of these emerging technologies are Cognitive Radio, Software Defined Radio (SDR), high-altitude platforms (HAPS) and Ultra Wideband (UWB).

Spectrum management

In order to efficiently fulfil the increasing demand, spectrum management should put greater emphasis on the consideration of new emerging spectrum-efficient technologies but also of economic factors that have impact on spectrum usage behaviours. These studies will lead to development of policy and regulations to help manage increasing demands on the limited spectrum resource. Studies such as on spectrum cost against network cost and sharing and on interference management and mitigation techniques.

Spectrum and us

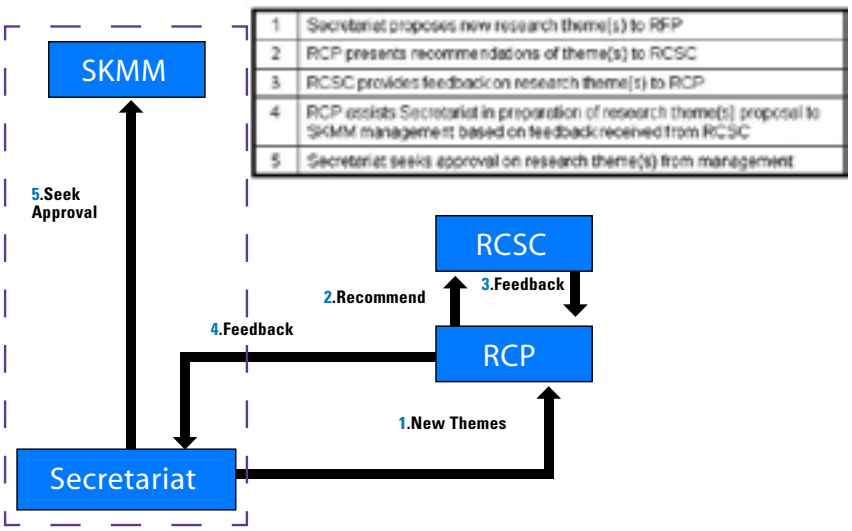
The increasing use of spectrum in our daily life has raised interest for many of us to understand its role in societal behaviours and health. There is a need to study how and to what extent this intensive use of the spectrum will change and affect our way of life. How the ever increasing and intensive spectrum use will influence and change our life is a very exciting theme for sociologists, political scientists and economists. Another area of study is the public concern on health issues arising from the proliferation of base station transmitters and frequent use of handphones. Study on levels of radio emission in selected urban areas could be measured and benchmarked against other cities and such results can be shared and models created to simulate its future impact by drawing upon and benchmarking against investigations carried out elsewhere as well as by the World Health Organisation.

Expected Outcomes

Beyond the empirical results of research and development projects, there are benefits arising from the collaboration programme. It will result in capacity building and knowledge growth for those who are dealing with spectrum management. There will be funding for research themes which are in line with the need of the industry. It will provide a platform for sharing knowledge and exchange of expertise locally, within the region and internationally.

Also, the field of spectrum management will be introduced to a wider audience through Spectrum Malaysia Events hosted by SKMM i.e. seminars, lectures, workshops and talks on laymen's terms to help acquaint the corporates, academics and public on the various aspects of radio spectrum.The SRCP will indeed increase the weight of Malaysian spectrum management in the regional and international arena. Finally, the spectrum research objectives, directions and the expected outcomes are seen to be in line with promoting

Spectrum Research Collaboration Programme:- Development of research projects



and achieving the goals of the Ninth Malaysian Plan and the development strategies as in the Malaysian Information, Communications and Multimedia Services 886 (MyICMS886).

Selection of Research Projects

As mentioned earlier, SKMM will allocate a certain amount of research funds for the SRCP. The SRCP Secretariat will identify and announce the research themes or projects after careful analysis with inputs or advise from the RCP. The allocated fund may vary from year to year depending on the approved budget and the number of approved projects to be initiated in the year. The fund started with RM4 Million allocated for the research projects in 2007. The research themes are reviewed every year, depending on the research requirement.

Each lead partner IHL are encouraged to seek a secondary partner, which can be another IHL or one or more Malaysian or foreign company, organisation or government agency. This is to encourage greater scope of participation and promote academia/industry collaboration so that the research is more practical rather than academic and that networking or matching of brains with industry needs will improve the success rate, applicability and reduce cost.

The IHLs will submit their proposed research projects under their chosen theme, along with details like the time required and the cost to implement it. The SRCP Secretariat will evaluate their proposals together with a tender committee comprising professionals within SKMM, and also supported by the RCP's member who would assist in conducting the technical evaluation of the submitted proposals.

The RCP will help the SKMM evaluate each proposal to assess its necessity, its importance, cost effectiveness and whether the proposed research has already been conducted elsewhere. Once decided the funds will be allocated to the IHL recipients.

Research Projects 2007

The Request for Proposal (RFP) was first issued in 2007 and 22 offers were submitted and following the evaluation process, 9 subjects were chosen in 5 themes as the most important ones for the future research collaboration with different universities.

Seven universities received research grants to conduct 11 research projects in 2007. The following table shows the research subjects and universities where the research is currently being carried out.

It may be noted that partnership between IHLs is best suited when the researchers compliment each other with no conflict or overlapping interest in its results, such as in Uniten's collaboration with UTM on the effects of radio frequency radiation.

On the other hand, research on live cases or actual implementation is best conducted in partnership with an industry player operating in the field, such as that conducted on spectrum needs of emerging wireless technology by UTM, UKM and Maxis, and on synergizing 2G, 3G and WiMAX by UM and DiGi.

Monitoring of Research Projects

The progress of the current research projects are being monitored closely by the Secretariat, with assistance from the RCP.

The research teams are required to submit reports every quarter on the physical and financial progress of the research projects. These reports will be analyzed by the Secretariat and then presented to the RCP and SKMM. The reports are due on 7 January, 7 April, 7 July and 7 October every year.

In addition, technical visits are also conducted by the RCP and Secretariat to the university, in order to assess the research project's progress, meet or network with the research team, as well as auditing the expenditure related to the project.

Where necessary, technical assistance and advises are also provided to the research team, to ensure that the

Research Projects: 2007

No.	Research Subjects	Universities	Collaborative Partners
1	Impact on the society	UTM, UKM	University of Sydney, IIUM, UniKL, UUM
2	Radiation hazard	Uniten	UTM
3	Spectrum cost vs network cost	UNiM	First Principle Sdn Bhd
4	Cognitive radio	UTM	Uniten, IIUM
5	Frequency adaptive HF systems	UTM	UMP, MRCS, RF Communication Sdn Bhd
6	Frequency use above 25 GHz	UPM	UTM, USM, IIUM, CRC (Canada)
		MMU	MUST
7	Spectrum needs for IMT-Advance	UTM	UKM, Maxis
8	Coexistence in extended C-band	MMU	MIMOS
9	Synergizing 2G, 3G and WiMax	UM	DiGi

Lectures in 2007

No.	Title	Presenter	Date
1	Current Activities Within ITU-R Towards IMT-Advance or 4G Systems	NTT DoCoMo	4 Oct 2007
2	Mobile TV	Qualcomm	4 Sept 2007
3	Approches in Refarming of Spectrum and Spectrum Management	Telenor	16 Aug 2007
4	Evolution to Next Generation Mobile Network	Maxis Communications	17 Aug 2007
5	Wirweless Broadband Access. An Overview on Standards and System Trail in Malaysia	MMU & DiGi	12 July 2007
6	Smart Antenna and Location Based Services	UTM	21 Mar 2007
7	Spectrum Rules OK: Wireless Communications from Submarines to Satellites	UTHM	1 Dec 2006

research objective is met in accordance to the research agreement signed between the IHLs and SKMM in the collaboration project.

Spectrum Research Web Portal

The SRCP web collaboration portal (www.spectrumresearch.com.my) was completed and operational by the end of 2007. The collaboration portal has since been utilized by the research teams for conducting online discussion and communications on the research topics, exchanging and developing new ideas for new research subjects and also announcement for upcoming Spectrum Malaysia Events.

Membership to the portal is open to the public by registration. However only selected registrations will be approved as member, depending on the background of the applicant.

The RCP uses the portal for all communications within themselves including discussion on outstanding matters and dissemination of meeting minutes, are done in the portal. However, the forum of RCP is only accessible to the RCP members and Secretariat only.

In addition, the Research Framework which was issued on 20 April 2007 is also available at the Download section of the portal. The web portal was officially launched during the RCSC

Acronyms

Research	Subjects Universities
CRC	Canadian Research Center
DiGi	DiGi Telecommunications Sdn Bhd (mobile operator)
IIUM	International Islamic University Malaysia
Maxis	Maxis Communications Berhad (mobile operator)
MIMOS	Malaysian Institute of Microelectronic Systems
MMU	Multimedia University
MRCS	Malaysian Red Crescent Society
MUST	Malaysian University of Science and Technology
UKM	Universiti Kebangsaan Malaysia
UM	Universiti Malaya
UMP	Universiti Malaysia Pahang
UNiM	University of Nottingham Malaysia
Uniten	Universiti Tenaga Nasional
UniKL	Universiti Kuala Lumpur
UPM	Universiti Putra Malaysia
USM	Universiti Sains Malaysia
UTHM	Universiti Tun Hussein Onn Malaysia
UTM	Universiti Teknologi Malaysia

Lecture Series

Other activities conducted in support of the Collaboration Programme include a series of seven lectures conducted throughout the year, with invited speakers coming from the industry and universities and with attendance by members from the industry, government and the universities.

The table above lists the Lecture Series that have been conducted in 2007:

Topics scheduled in 2008 are Set Top Box and Digital TV (completed in February), WiMAX – Interoperability for Large Scale Commercial Deployment (June), Cognitive Radio Networks (July), Free space optical links (August), Unmanned aircraft systems (September), ITU and Radiocommunication sector (October) and Short range devices for wireless digital homes (November).

Research Projects 2008

Meanwhile, the SRCP Secretariat will announce the themes for the next round of research collaboration this July and it aims to award new research grants in October.

Further details and updates on the Collaboration Programme are available at www.spectrumresearch.com.my while soft copies of the current and back issues of this magazine are available at http://myconvergence.com.my. .my

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Express Delivery: The e-Commerce Enabler

The new fangled online business that makes use of the Internet will not survive a day without the involvement of an industry that has its roots in ancient history. Yong Phie Loong explains how the courier industry makes ecommerce happen.

When Hattori wanted to purchase a new PC, all he did was order it on-line in the morning. By noon the same day, his order was customized by a plant in Penang and just after lunch the next day, his new PC was delivered to his home in Tokyo.

This scenario was made possible thanks to the global express delivery company that flew the PC from Penang to their Asian hub in Subic Bay in the same evening and then forwarded the set to Tokyo. While Hattori and many others in the world were sleeping, thousands of express delivery staff were sorting, shipping and clearing shipments round the clock all through the night and early hours of the morning

so that shipments were delivered on time throughout Asia and elsewhere the next day .

When Neo, staying in Bentong, wanted to have his favourite uncooked noodles, all he did was to call up a shop in Ipoh in the afternoon. By 11 am the next day, the best noodles from Ipoh were delivered to his door step.

The domestic express delivery company that picked up the shipment in Ipoh sent it to the Hub in PJ the same evening the call was made and then forwarded the shipment to Bentong. While Neo and the rest of Malaysia were asleep, an army was working to sort, ship and deliver hundreds of thousands of packages so that by the next morning, people like Neo will get what they want in express time.

The innovative 'partnership' between the internet and the express delivery industry has certainly changed the way we do business today and the way we live, allowing anyone to have access to any place in the world by providing fast, reliable and integrated door to door delivery of shipments which are tracked and controlled throughout the journey. Indeed it has helped many Malaysian businesses, big or small, to compete effectively in an increasingly global market and to maximize the efficiency of their operations where speed to the marketplace is highly critical.

How it Began

Little did anyone envisage that what started as a small courier business in Malaysia in 1973 when DHL started its operations to serve the foreign banks and OCS (Overseas Courier) to deliver Japanese newspapers to expatriates would end up becoming a RM 1.3 billion industry in 2005 where the top 10 industry leaders have a 92% market share in a business served by 113 licensees.

Behind this industry is an army of 10,000 plus employees in front line service, zip zapping the entire length and breath of Malaysia handling over 200,000 shipments daily under all kinds of weather, day or night, enjoying whatever precious freedom that comes with it, in a field where the courier reigns supreme. In spite of the pervasive use of technology which allows shippers to know the whereabouts of their shipments from anywhere and at anytime, packages are still picked up and delivered manually just as it was done since bygone days.

Another army of 1,000 plus employees are in the Hubs and Gateways in Malaysia, presiding over the sorting, clearing and line-hauling mostly during the night for 320

days a year. While others sleep soundly, this army works at sorting, manifesting, pre-alerting, dispatching and clearing shipments so that shipments can arrive at their respective countries and branches on time 99.95% every working day.

And the last army of 4,000 employees plus are in the front rooms and back rooms, taking over 20,000 calls daily and processing invoices for over 300,000 customers monthly. Communicating with thousands of discerning customers daily, front line customer service staffs work to help arrange pick ups and attend to customers needs personally. Whatever technology that is used, it is still the warmness of a human voice on the other side that hears, serves and soothes a customer.

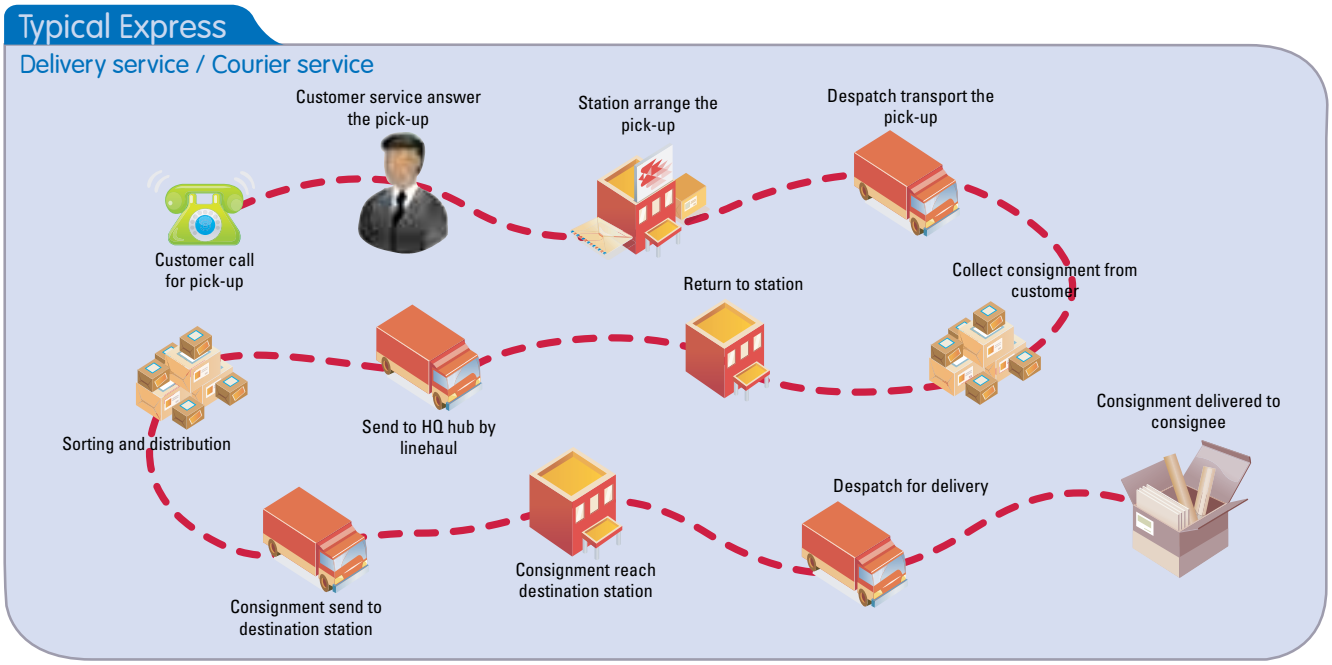
Every shipment handled is somewhat distinctly important and critical, be it specimens for malignancy testing, stem cells for preservation, university application forms for a new future, tender documents for a business survival, cheques for settlements or critical spare parts to get a plant re-started. Every shipment not delivered on time bears a consequence.

From just handling business documents and Japanese newspapers, the Malaysian express industry has evolved in the last 30 years from being courier companies to express carriers, providing integrated solutions in the total supply management chain. In providing customized solutions, the express delivery industry has been able to assist its customers to reduce inventory, production and distribution costs while providing speed to the marketplace –the speed that is now so critical in today's fast moving and changing environment .

The Dawn of e-Commerce

The number of internet users around the world has been steadily growing and this growth has provided the impetus and the opportunities for global and regional e-Commerce. e-Commerce offers many potential benefits, including access to geographically dispersed markets across international borders and enabling direct supply chain relationships with businesses and consumers.

With the pervasive usage of the internet, online shopping has become popular especially among the younger generation. E-Commerce trade from business to business (B2B) and from business to consumer (B2C) is growing, with online sales reaching about US$259 billion in the USA in



2007. The express delivery industry plays a crucial last leg in the e-Commerce cycle ...for no transaction is concluded without a delivery completed and documented.

The greatest portion of e-Commerce transactions takes place between companies (B2B). At present this accounts for around 70 to 85 percent of all e-Commerce. Because B2B grows faster than B2C, it is believed that this faster growth is made possible by the shift from trade via existing EDI networks to those via the internet. Cost reduction in purchasing and distribution as well as the opportunity to improve efficiency and services are also driving B2B transactions.

e-Commerce Possibilities

In Malaysia, e-Commerce while still at its infancy stage will provide a new engine of growth for the express delivery industry in the country. Online buying will be the trend for many people who see conveniences and choices over the internet.

However several challenges exist for the express delivery industry in e-Commerce delivery especially to homes. These include receivers not in their homes when deliveries are attempted, integrity issues in the supply chain, difficulties in locating residential addresses, difficulties in accessing entrance to apartments and condominiums, rampant crime rates that deter household members to open their doors to talk to strangers or over the gates and limited window for delivery time. The greatest challenge comes from the integrity of the people involved in the supply chain from shippers to receivers and the associated costs of comprehensive controls and accountability in a market driven by rates and services.

Thanks to technology, many of the above challenges are being addressed. Receivers are being alerted by text messages on their hand phones on the date and time of delivery. To ensure high value shipments are delivered to the right persons, pin numbers are forwarded to the named receivers by SMS beforehand. Thus the named receivers need only to retrieve the pin numbers and key them in the couriers hand held devices to confirm authentication of the receiver. With active RFID, high value shipments can be easily tracked. But these technologies come with a hefty price whereby the current shipping rates cannot justify the return of such capital expenditure.

Malaysian businesses and shippers are indeed fortunate to enjoy one of the lowest delivery rates in the world, thanks to intense competition which has enabled only the fittest to survive. Malaysian businesses can count the billions of Ringgit in savings made each year through express delivery services instead of having had to make the deliveries themselves.

Yet it is hoped that the margins of the express delivery industry will improve with better rates and yields so that the industry can attract bright talents and have the capital to invest heavily in people, technology and infrastructure without which it cannot be world class in terms of work force and capabilities. smy

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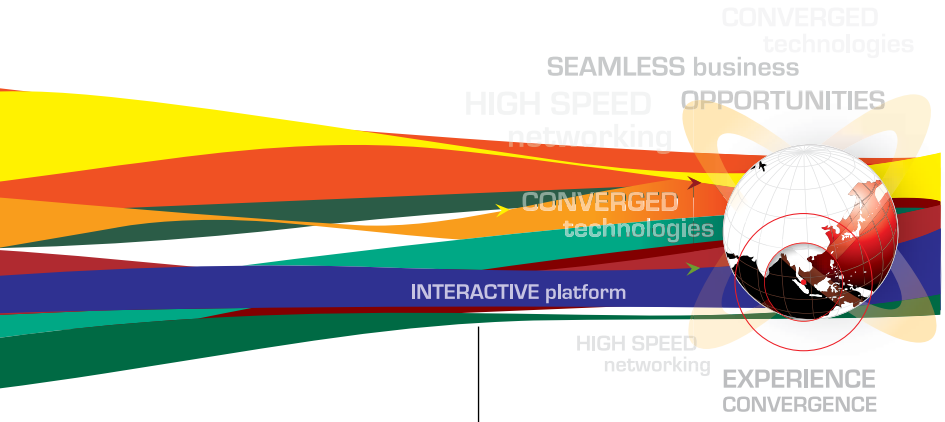

EXPERIENCING CONVERGENCE.

MyBROADBAND

EXHIBITION AND CONFERENCE 2008

28-30 OCTOBER 2008 • KUALA LUMPUR CONVENTION CENTRE

EXPERIENCING CONVERGENCE. MyBROADBAND '08
28-30 OCTOBER 2008, KUALA LUMPUR CONVENTION CENTRE

2008 is a milestone year for the Malaysian Communication and Multimedia Commission, SKMM, as we celebrate our 10th Anniversary. Rapid developement is taking place in ICT technologies and their applications which will impact on the way we live, work and play. Malaysians have already witnessed the evolution in the way we receive entertainment, news,, information and communicate. The convergence of communications and multimedia services will gather momentum and create many opportunities and challenges.

As such, I am pleased to announce that as a key part of our celebrations, the **EXPERIENCING CONVERGENCE, MyBROADBAND '08 Conference & Exhibition** with the '***Collaboration & Innovation***' will be held concurrently with the 11th ACM Expo & Forum at the Kuala Lumpur Convention Centre from 28-30 October 2008. Jointly organised by The Ministry of Energy, Water and Communications and SKMM with AMB Exhibitions, the exhibition will provide visitors with 'real life' experiences on the different applications and services that exist today. The EXPERIENCING CONVERGENCE, MyBROADBAND '08 Conference will attract over 500 delegates and 45 top level speakers.

I would like to invite you to be part of this truly exciting and historic event and look forward to your support and participation in making **EXPERIENCING CONVERGENCE, MyBROADBAND '08 Conference & Exhibition** a success.

Yours sincerely,

DATUK DR HALIM SHAFIE
Chairman, Organising Committee
EXPERIENCING CONVERGENCE, MyBROADBAND '08

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Five members of the ladies computer class of the Bandar Baharu UCC flanked by UCC manager, Ruzilawati on the left and Assistant Manager, Shahrul Zakaria on the right.

Exemplary Cybercafes

SKMM's Universal Service Provision Communications Centres are showing the positive side of cybercafes. Md Rusli has the story of the Bandar Baharu, Kedah centre.

Rightly or wrongly, cybercafes have a lot of negative perceptions. They're usually associated with dingy environments where students playing truant congregate to waste time and money on Internet gambling, playing negative games and visiting undesirable sites. The negative associations of cybercafes with activities like smoking and gangsterism are so strong that a fair number of parents either completely ban or severely limit their children from visiting cybercafes.

So it is a pleasant surprise then to come across a new kind of cybercafé that is not only safe but is actually passionate about giving its members a positive Internet experience.

Unfortunately, you probably won't find one around your street corner; not unless you happen to live at the far edges of Internet land.

Say hello to USP Communications Centres, more often known simply as UCCs. These cybercafes are not to be found in urban areas because they have been set up under the Universal Service Provision (USP) programme by SKMM.

The USP programme was of course started years back to bring communication services to underserved areas. The first phases of the programme saw communications infrastructures being installed in remote areas.

Villages that had no telephony services had public phones installed. In other areas, the USP programme brought phone lines to all homes in an underserved area. USP projects have also been responsible for providing mobile coverage in areas that service providers have not been able to reach. These infrastructure intensive projects are still continuing; for example a USP funded initiative is bringing mobile coverage to the East-West Highway that links Perak and Kelantan.

But infrastructure needs are rapidly being met and this has led the USP programme to focus on initiatives that involve improving access to digital services among under-privileged segments of the population. One such programme has been the installation of Internet Access PCs in Libraries. The other interesting programme is the UCC project.

The UCC also forms part of the national broadband rollout plan. The UCC project is simple in its concept. Putting together a blend of entrepreneurship and service.

SKMM worked with state governments to identify suitable premises. In the third quarter of 2007, 12 locations were approved. One of them is in Bandar Baharu, Kedah. A visit to this centre reveals just how much USP initiatives are helping to narrow the digital divide in Malaysia.

UCC Bandar Baharu

Bandar Baharu, Kedah is your typical small Malaysian town which lies at the tip where three states, Kedah, Penang and Perak meet. It is separated only by a river from Parit Buntar town which belongs to Perak state. The Penang town of Nibong Tebal is also very close by. Most residents are engaged in farming activities or work in factories nearby.

The arrival of the UCC centre has brought changes to the activities of quite a few people. Factory worker Nor Zuraini who lives in Kampung Teluk Sera, Nibong Tebal is certainly not a typical cybercafe user. She has been travelling half an hour every Sunday for the last one month to attend a computer introduction programme. Her classmates consist of five other ladies, all married and all very fascinated with what they are learning at the UCC centre.

Fellow student, Nurihan who is engaged in some direct selling programmes said that she makes sure she frees up her Sundays to attend the computer class. They spend one and half hours each week and every student has a PC to use. These ladies are taught how to access the Internet and basic word processing.

The ladies computer class in session.

Nurihan says that she feels more empowered since attending this programme. "Some of my neighbours have computers and I felt a bit deprived because we did not have one in the house." Now she is so enthusiastic that she is making arrangements to buy a second hand PC for the house. "All of us have our own email address and now we are communicating with other people." There is even better news: most of their husbands are also attending these same computer classes on a different day.

The manager of the UCC is Ruzilawati Mohd Khalib, a bubbly young lady who took a degree in computer science in UiTM Shah Alam. The UCC centre is actually set up by TM Berhad, which was appointed by SKMM for the UCC project. TM along with its business partner, Medan Sedunia Digital hired people like Ruzilawati to run the UCCs and they are given opportunities to run it as a business with the possible incentive of owning the UCC outright in due time.

Ruzi says that she and Shahrul Zakaria, the assistant manager are enjoying their work in the UCC. They started in December 2007 and their first focus was on publicity. They printed and passed out leaflets advertising free computer classes and Internet access at promotional rates. The

UCC Bandar Baharu Manager, Ruzilawati.

response has been overwhelming and these days, people are signing up just by word of mouth alone.

The free computer classes that the ladies are attending are used to expose people to the information and services PCs and the Internet can offer them. Once they find how useful it is, they are then encouraged to become UCC members. Membership entitles them to special rates and privileges. UCC members pay only RM1 per hour for computer use while non-members are charged RM1.50. They also pay lower charges for printing and other services.

Ruzi is focussed on getting people to use computers in a positive way. The emphasis is on Internet usage. "We introduce e-applications to them, showing how they could get things done without having to physically travel anywhere." She was very pleased recently when some members came in and booked low cost airline tickets because they had just been offered university places in other parts of the country. "Previously, these students would have had to go to a travel agent in Penang, now they got the tickets by just coming here." Other activities that she has introduced to her UCC members include online money transfers and SME related services.

The students who use the UCC facilities are also becoming IT empowered. "Many of them are now printing out their folio covers and using information and graphics sourced from the Internet for their projects. Young people, like any other cybercafé, make up a large portion of the UCC members. Here, however, Ruzi and Shahrul are gentle supervisors who make sure that these youngsters are not visiting undesirable websites or engaging in excessive gaming activities.

The UCC membership is also very reflective of the population. Ruzi is proud that people of every race come and use the UCC facilities. Students Ananthi and Farhana

The UCC Centre is frequented by students of all races.

Classmates Ananthi (*left*) and Farhana (*right*) learning how to use a PC.

Syuhada are classmates at Sekolah Sultan Ahmad Tajuddin. Ananthi's father drives a tractor while Farhana's father is a lorry driver. They have been coming to the UCC two or three times a week usually by motorbike. Both of them have no computers at home and find the UCC facilities very useful.

Ruzi and Shahrul keep the centre running from 9 am to 7 pm every day. Occasionally Shahrul also open it from 8 pm to 10.30 pm if there is demand or a special request. These two people are very dedicated to meeting the needs of the UCC members. "We make sure that we keep on good terms with everyone and we have no hesitation going the extra distance for them." This is demonstrated literally at times as Shahrul also help out students without transport by picking them up and sending them home by car.

The UCC structure

The Bandar Baharu UCC has 11 computers all networked and connected to the Internet. One PC is used for admin work and 6 computers are used for classes. The other 4 PCs are available for users at hourly rates. A CCTV system ensures that computers are used for positive purposes. The premises are air conditioned and the computers are protected from power surges and blackouts with UPS (uninterruptible power supplies) units. Ruzi says that blackouts are a problem in Bandar Baharu, "We had a lot of blackouts in the initial months but thankfully, things are a bit better now."

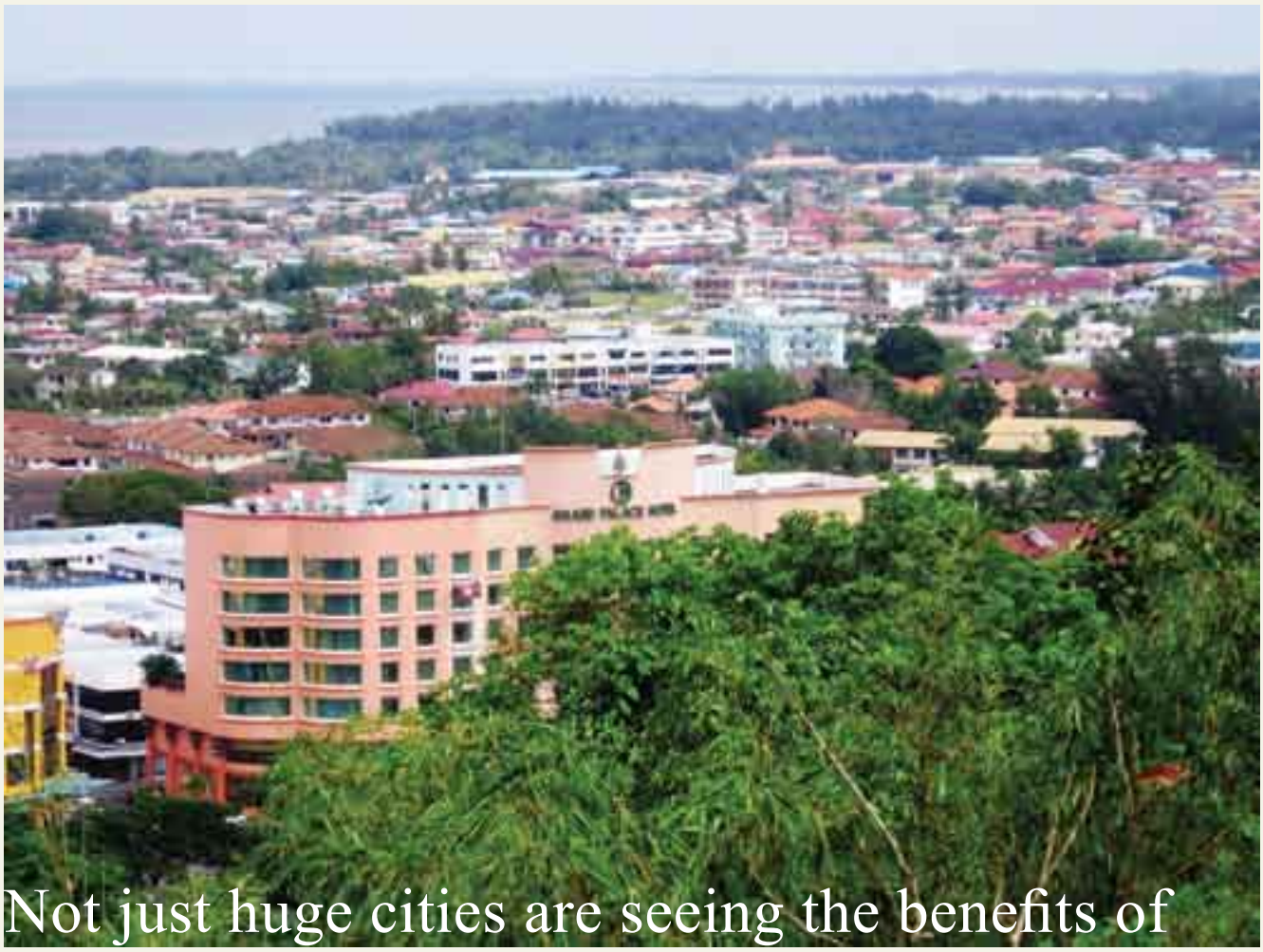
According to Ruzi, the money collected from membership fees and PC usage goes towards materials, peripherals and utilities. To really keep it sustainable, they have to engage in providing IT services and sales. Assistant manager Shahrul is the ace in this area because he handles PC servicing and refurbishing.

The free computer classes have generated a steady income through the sale of second hand and low cost PCs to first time computer users. Shahrul says that most of the people here cannot afford top range new PCs which is why he spends time sourcing out second hand PCs for them. Shahrul also repairs and services computers that people bring in.

Ruzi has plans to expand the range of services being offered. We're looking into getting a photocopying machine as we have people asking for copying services all the time. Space is a problem as the shoplot they are in is rather narrow. "We have put in a request to take up two shoplots and open up the wall in between. Hopefully we can get that approved and really grow this venture." .my

Md. Rusli Hj. Ahmad is a Director at the Universal Service Provision Division, SKMM. He can be reached at rusli@cmc.gov.my

Miri: From a fishing village to a WiFi City



Not just huge cities are seeing the benefits of wireless technologies. The town of Miri in Sarawak is transforming itself into a WiFi city. SKMM's Zulkarnain tracks the transformation taking place.

Like most cities, Miri has a rich history. Back in the 1800s, Miri was just a sleepy fishing village of a few families trading occasionally with passing ships. Until the discovery of oil on Canada Hill in 1910, it remained a trading village.

Today, Miri is a modern bustling city. Over the years, it was at the forefront of the oil boom, being one of the first places in Malaysia where oil was found. Rapid transformation followed and this town became synonymous with oil. Over the years, other booms followed. Now, another kind of transformation is taking place. Miri is in the process of becoming the most connected urban locality in the country. The technology of choice is WiFi.

The Old Miri

The history of Miri is quite well documented at www.miriresortcity.com. Much of the following information on the Miri story is through the kind courtesy of this website.

To visualise Miri before the city came to know oil, one has to transcend oneself into a very different past. Back then, it was just a small town consisting of about twenty scattered houses and a few shops. These included a bazaar, a gambling farm, a pawn shop and an Arab shop. Trade at Miri consisted chiefly of Jelutong (a tree species) logs, brassware, belachan (local shrimp paste) and budu (fermented fish sauce).

The coming of oil brought change to Miri. Canada Hill, especially the area around the oil well Miri-1, has a significant place in the history of modern Miri. This is where the oil industry started in Sarawak, with the successful drilling of Miri-1 in December 1910.

The growth of the oil industry has helped to transform Miri from that small fishing village at the turn of the century into the modern and prosperous town today. The first derrick constructed was affectionately called 'The Grand Old Lady' and produced oil for 62 years. It was the first oil town in Malaysia.

Back then, there was of course no telegraph system. For urgent messages, a special runner came from Labuan, via Brunei, taking four days and nights using a path along the sea. There were no roads, only dirt tracks and no street lamps. There were not even rickshaws, and when one of the Europeans rode on a bicycle, the whole *kampong* turned out in amazement to watch him.

But things slowly improved. By 1921 or thereabouts, history records that there were around 40 shop-houses in Miri. A Chinese school was operational and even an English school had been set up by then. Bicycles and motorcycles started to appear on the few clay roads in town. Not long after, motor cars were introduced. This phenomenon brought further changes to the area.

Another boom that happened in the sixties to the seventies involved the timber industry. Around then, exporting timber became a highly lucrative industry. Miri benefited from this boom well until the eighties and nineties. The face of the town changed with the construction of suburban housing, multi¬-storey commercial complexes and international class hotels.

Somehow Miri always found itself in the thick of things. When eco tourism became popular, Miri was there to benefit once again. It came to be known as `Sarawak's Northern Gateway.' Around Miri sits four world-class national parks: Mount Mulu National Park, Niah National Park, Lambir Hills National Park and Loagan Bunut National Park.

Inevitably, in the mid-nineties, the rapid development and concentration on tourism led to the Oil Town being elevated to a City status.

Of course, over the years, prosperity drew in people. The small town consisting of a few families has grown to a city with 300,000 inhabitants. The people of Miri consist of Malays, Chinese, Ibans, Orang Ulu, Melanau, Bidayuh, and Penan with quite a sprinkling of expatriates happily living in harmony and all proud to contribute to make Miri a Resort City.

The petroleum industry is still an important employer, but it is the Kuala Baram Industrial Estate that provides the bulk of jobs for the thousands who now consider Miri their home.

Connecting Mirians to the World of Internet – Project Miri Wi-Fi City

For a city that is already so rich in history what other momentous event could have possibly added to its lustre? The answer came on 10 February 2007 when Sarawak Chief Minister YAB Pehin Sri Haji Abdul Taib Mahmud during the opening of the 11th Pesaka Bumiputra Bersatu (PBB) Triennial Assembly at Imperial Hotel Miri announced that Sarawak will embark on a radical approach towards entering the Digital Age. It will strive for a quantum leap on Internet penetration rate to 50% in 2010 from a mere 1.3% in 2007. The objective was to put the state ahead of the country's pursuit of K-society.

Not surprising, Miri was chosen to kick start the ambitious target. The project was to be undertaken by a state-owned communication company, Sacofa Sdn. Bhd. with another company, Danawa Resources Sdn Bhd as its partner. Work began in January 2007 and to date it has already reached a staggering 80 percent coverage, adding another first in history books – Miri has become the first

WiFi City in the country. The installation of an additional 20 base stations will see Miri achieve 100% coverage.

Project Implementation Current status

High speed wireless internet connection in Miri had become necessary as there is a heavy presence of multinational companies such as Shell, Petronas and many other foreign oil and gas companies which need reliable internet connection for their operations.

Danawa Resources Sdn. Bhd. is the first and only Internet Service Provider in Sarawak to offer ubiquitous Wireless Internet connectivity in the resort city of Miri with the launch of the DeConnexion WiFi service. The company has set up WiFi "Hot Zones" throughout the city centre in the first phase of its rollout plan.

Additional Hot Zones will be set up over the next few months to at least provide 100% wireless coverage of Miri city. The suburbs of Miri will also be covered in subsequent deployments. The response from Miri residents was impressive. By December 2007, there were 17,000 registered DeConnexion users. Within six months, the registered users have shot up to 23,357.

If these registered users are household subscribers, Miri would have a 73.7% household broadband penetration rate, suppressing the national target of 50% household broadband penetration rate target (the current broadband penetration rate for Miri is 26.6%).

There are currently over 46 locations and 51 hot spots which have been covered under the hot zones, including business districts, schools and even tennis courts. Danawa is expected to set up booster cells between the base stations to improve coverage and quality of the service.

The Curtin University of Technology Sarawak campus is the first in the country to enjoy broadband internet access in the vicinity of their hostels and lecture halls under the first hot zone pilot project for Miri city. Choosing Curtin University as the first hot zone pilot for Miri City augurs well with the state vision of developing k-society and a reflection of the city international community inhabitants.

The university started operations in Miri, Sarawak in February 1999. In 2002, the new purpose-built campus in a garden opened, which is a world-class facility where stylish architecturally designed buildings complement state-of-the-art equipment and facilities coupled with sophisticated IT linkages to provide students access to the resources of Curtin, Western Australia.

The international students come from some 40 countries — the largest groups from China, and very obviously, Brunei, because of the proximity. They also have students from South America, Africa, the Middle East, Australia

and of course Southeast Asia. It was reported that every year, there is an addition of about 250 international students, making Miri a truly international community city.

The new landscape

Danawa's WiFi coverage is based on industry standard 802.11 b/g standards which enable users to access the wireless network with similarly equipped notebooks, computers, PDA's and WiFi equipped Smart phones. Users will be able to enjoy unlimited always-on broadband internet access anytime anywhere within their networks.

Using the Altai A8 WiFi Cellular Smart Base Station, each base station, can create a hotzone with a 500-metre radius but this can extend as far as 1.5 km in a clear straight line.

The City-wide WiFi implemented in Miri can deliver a variety of applications for the benefit of the City. In an economy emphasizing cost-effectiveness, productivity and performance pledge, a tighter fiscal budget policy mandates Governmental departments and public utilities to spend their budget allocation efficiently in providing public services.

Leveraging on the availability of internet access within the city; City personnel and field technician can make use of the citywide network to receive job assignments and to file job completion status with wireless-enabled PDAs and laptops, so as to save the traveling time between office and field location. What's more, the meter reading process of public services such as electricity, water and gas supply can be automated by aggregating the data back to the central database through the wireless network.

Another domain of city-wide application is on the public safety side. Previously, public safety agencies were deploying their private systems for voice or data communications and resulting in coverage problems and huge capital investment.

With the availability of secure city-wide wireless network, remote surveillance can be easily deployed with wireless video cameras installed at government buildings, strategically located premises and highways or even traffic lights. Remote data access is another key application area to allow retrieval of digital maps and building schematics in search & rescue operations. Currently Danawa is working with one of the housing developers in Miri to install wireless remote surveillance using the WiFi infrastructure in the housing area.

The development of client devices drives the need for a city-wide wireless network. WiFi built-in chipset becomes a standard for laptops. There will be more mobile phones coming out in market with WiFi mode. Smart phones and Blackberry devices provide push email service through WiFi. To add to the possibilities, even portable multimedia players such as the Sony PSP, Mylo and Microsoft Zune all come with WiFi capabilities.

Conclusion

From a village of roaming wild boars to a city where people and tourist roam the city with high-tech gadgets and laptops, Miri has certainly put itself once again in Malaysian history books. The city developed by the visionary and determined people of Sarawak is well poised to experience its next boom. .my

Zulkarnain Mohd Yassin is the Director of the Kuching, Sarawak branch, SKMM. He can be reached at zur@cmc.gov.my

THE INAUGURAL USP SYMPOSIUM ON COMMUNICATION TECHNOLOGIES FOR UNDERSERVED COMMUNITIES

The Malaysian Communications and Multimedia Commission (SKMM) organized the USP Symposium on Communication Technologies for Underserved Communities in Seremban in June. Yang Berhormat Dato' Shaziman Abu Mansor, Minister of Energy, Water and Communications delivered the Keynote Address at the Plenary Opening Session, witnessed by more than 200 delegates from the communications and multimedia industry, representatives from State Government and Government bodies, technology experts and members of academia. The two day symposium aimed to identify the right technology-mix for the Universal Service Provision (USP) programme roll-out. This is to ensure that the universal services offered are relevant and beneficial to the underserved communities identified under the USP Programme.

Since 2004, SKMM has been rolling out multiple USP programmes in the effort of bridging digital divide throughout the country. Besides implementing USP projects within the 89 underserved districts, SKMM has also embarked on the rollout of other new projects under the USP programme which includes the provision of collective Internet access service to libraries (USP Broadband Libraries) and the creation of USP Communications Centre (UCC) located in the underserved areas.

As of 31 December 2007, a total of 71,125 individual lines and 3,259 payphones under Phase 1, 2 and 3 of the USP projects have been completed. SKMM successfully coordinated the rollout of UCC projects in accordance to the designation of the 12 sites throughout Malaysia. In addition, 44 broadband libraries have successfully been implemented.

To further strengthen the USP programme, SKMM has also conducted a review on existing USP Regulations which include the deployment of broadband to meet the targets as set out in the National Broadband Plan and the MyICMS 886 strategy. The expansion of USP framework is expected to assist the disadvantaged communities to reap the benefits of digital opportunities that will be available through the projects.

Impact assessments were also carried out on all USP projects. The findings revealed that there is a requirement to implement appropriate technologies in the project areas. Following the impact study, the symposium was organised to seek and identify the right technology-mix for better universal service deployment in subsequent USP projects rollout. Among the key topics discussed during the symposium were 'Technology Characteristics for Underserved Deployments', 'Issues and Challenges in Implementing USP for Underserved Areas', 'Sustainable Applications for e-Community Development', 'Meeting USP Objectives through Reliable Last Mile Solutions' and 'Future Model of USP Community Projects'.

Initiative on Inter-Carrier Blocking of Lost / Stolen Mobile Phones

SKMM organised an industry forum on an initiative to curb the growing problem of stolen mobile phones. Police superintendent Michael McNally head of UK's national mobile phone crime unit was at hand to share how the problem is being tackled there.

The SKMM initiative involves a national registry of 15-digit International Mobile Equipment Identity (IMEI) code that all mobile phones have. IMEI code numbers can be checked by mobile phone users by entering *#06# on their mobile phone keypad. This will allow the blocking of lost or stolen mobile phones by all carriers in the country.

Local company, Nuemera Malaysia has submitted a proposal to the Government to develop the database and implement the project.

BROADBAND LIBRARY LAUNCH FOR TERENGGANU

SKMM Chairman officially opening the Broadband Library in Dungun

The Malaysian Communications and Multimedia Commission (SKMM) launched the Broadband Library Project for Terengganu in Dungun Public Library in June.

The launch was officiated by Yang Berbahagia Datuk Dr Halim Shafie, Chairman of SKMM. Several officials from Pejabat Daerah Dungun, State Libraries and SKMM were also in attendance. The Dungun Public Library is one of the libraries selected for the Broadband Library project in Terengganu. Other libraries in Terengganu include Marang and Besut. The Broadband Library Project is part of the USP Programme and focuses on the provision of Internet access service to libraries located in underserved areas of the country.

For the USP Programme, a total of 44 libraries nationwide have been selected for the pilot project rollout and made operational by middle of 2007, covering Sarawak (25 libraries), Selangor (10), Terengganu (3), Johor (3), Sabah (1), Kedah (1) and Pahang (1).

The sustainability aspects to ensure long-term value to the community have also been built into the Broadband Library Project. This includes activities to inculcate optimum use of these facilities and continuous development of local content. With these facilities and efforts in place, it is hoped that rural communities can be more enlightened through better access to information and sharing of knowledge.

Developing the Networked Content Industry

The Malaysian Communications and Multimedia Commission (SKMM) announced in March that INSPIDEA Sdn. Bhd. (INSPIDEA) and MURASU SYSTEMS Sdn. Bhd. (MURASU) as the first two recipients of the Network Content Development Grant (NCDG). This was done in an award ceremony held at the SKMM HQ in Cyberjaya, which was witnessed by representatives from the content development industry and related agencies. On hand to present the awards was Y.Bhg. Datuk Dr. Halim Shafie, the Chairman of SKMM.

The announcement marks a milestone in the Networked Content Development Industry as the NCDG, which was launched in July last year, is set to facilitate and encourage Malaysians' involvement in the creation, production and distribution of highly creative, original and marketable content for domestic and international markets. The RM20 million grant schemes will provide funding assistance to suitable content developers as part of the MyICMS 886 strategy.

INSPIDEA, an animation company, received the NCDG allocation to develop the sequel to a successful animation venture, Mustang Mama. The sequel, called Mustang Mama Die-Hard Sports Fan, is targeting the global market in conjunction with the Beijing 2008 Olympics. MURASU, a mobile application and content development company, was given the grant to develop the MobileJawi applications and content which will enable users to learn Jawi, send messages in Jawi and create Jawi-based content on their mobile devices.

SKMM intends to nurture sizeable talented Malaysian content developers by addressing issues such as funding especially for newcomers with good potential. In addition, SKMM is also keen to increase the level of acceptance of local content, both domestically and internationally, by using the grant to promote world-class content and devising regulatory initiatives. SKMM is driven by the national policy objective to project local values and the Malaysian identity to the world.

LAUNCH OF KL WIRELESS METROPOLITAN PROJECT

Kuala Lumpur, 12 Mei 2008 – The "KL Wireless Metropolitan" or "Wireless@KL" aims to turn Kuala Lumpur into a 'wireless city' with world class communications infrastructure. It was jointly launched by Yang Berhormat Dato' Zulhasnan Rafique, Menteri Wilayah Persekutuan and the Kuala Lumpur Mayor, Yang Berbahagia Datuk Abdul Hakim Borhan in the presence of representatives from relevant government and industry bodies.

The KL Wireless Metropolitan project is undertaken by Dewan Bandaraya Kuala Lumpur, SKMM, Synapse Technologies Sdn Bhd and Packet One Networks (M) Sdn Bhd. There are two main components: Wireless@KL and the Kuala Lumpur city Portal.

The Wireless@KL project which will be implemented by Packet One Networks (M) Sdn Bhd aims to increase broadband penetration and usage in the city. WiMAX technology will be used to provide up to 1,500 Wi-Fi zones in the first phase to public areas, commercial centres and government facilities.

This project is a major initiative under the "Klang Valley Broadband Push" (KVB90) which aims to take broadband penetration in the Klang Valley to 90% by 2010.

The kul.com.my city portal will provide information on all things in the city and will build on already existing websites set up by the

government and private sectors. It will aggregate information on subjects ranging from current news, development, economy, business, tourism and entertainment.

EXPERIENCING CONVERGENCE.MyBROADBAND '08 CONFERENCE AND EXHIBITION

The Malaysian Communications and Multimedia Commission (SKMM) launched its Experiencing Convergence.MyBroadband '08 Conference and Exhibition at its Headquarters in Cyberjaya in April. The Conference and Exhibition, jointly organized by the Ministry of Energy, Water and Communications (KTAK) and SKMM will be held from 28th to 30th October 2008 at the Kuala Lumpur Convention Centre.

The soft-launch officiated by Yang Berbahagia Datuk Dr Halim Shafie, Chairman of SKMM was held to inform potential participants and the public about the upcoming Conference and Exhibition. The exposition is expected to be a major event for the Communication and Multimedia (C&M) industry as two forums Experiencing Convergence and MyBroadband conferences will be held simultaneously.

The Experiencing Convergence forum will carry the theme of 'Collaboration and Innovation', while the MyBroadband forum will feature the theme 'Broadband: Going for Growth (G4G)'.

"The event is expected to be the largest gathering of industry players, regulators and consumers of the Communication and Multimedia industry," said Datuk Dr Halim. "We are not only targeting the technology savvy groups. We will also be addressing the interests of general consumers, as well as those from small and medium-sized industries who can truly benefit from the knowledge and experience gained from this Conference and Exhibition," he added.

This year is special as the Ministry of Energy, Water and Communications and SKMM will celebrate, together with the industry, the 10th Anniversary of industry convergence.

Along with the Conference, the Experiencing Convergence Exhibition will also be held to showcase the latest advances in technology, solutions and applications. The main attraction of the Exhibition is the Digital Home showcase. The model Digital Home will allow visitors to experience the latest communication and multimedia technology.

"Visitors will have the opportunity to experience the true meaning of convergence for the consumer," said Datuk Dr Halim.

The World Cyber Security Summit

The inaugural IMPACT World Cyber Security Summit (WCSS) was held in Kuala Lumpur, Malaysia on 20 - 23 May 2008. SKMM served as the host of this summit.

The WCSS included the inaugural meeting of the IMPACT International Advisory Board (IAB), a ministerial roundtable, plenary sessions as well as technology and information sharing sessions for in-depth discussion on the latest cybersecurity threats, trends and issues.

IMPACT's inaugural World Cyber Security Summit (WCSS) was the largest ministerial-level forum ever organised on cyber-terrorism and security. Government ministers, industry leaders, technology luminaries and international cybersecurity experts from 27 countries were in attendance, including Australia, Canada, India, Japan, Malaysia, Mexico, Saudi Arabia, Singapore, South Korea, Thailand and the United States.

Prime Minister Datuk Seri Abdullah Ahmad Badawi delivered the keynote address. Dr Hamadoun Touré Secretary-General of the International Telecommunication Union (ITU) also spoke at the conference.

The goal of the Summit was to chart the future course for IMPACT as a global multilateral platform facilitating the partnership between governments and the private sector in combating cyberthreats.

At the summit 26 countries came together to form a global cyber-security group: the International Multilateral Partnership Against Cyber-Terrorism (Impact). The founders said that IMPACT was formed because international efforts, including a cyberattack "early-warning system", were needed to stop people posing a threat to governments by compromising information systems.

As part of this effort, leading security figures from industry and academia will establish an '"early-warning system". The Impact Centre for Global Response will facilitate swift identification and sharing of available resources to assist member-governments during emergencies. The system will proactively monitor Internet threats, and provide global points of contact for governments during an emergency.

Impact will also play a role in cybercrime policy formulation and international cooperation through its Centre for Policy and International Co-operation. There will also be training initiatives through its Centre for Training and Skills Development, and the promotion of security best practice through its Centre for Security Assurance and Research.

PLACES

Rivers and waterfalls

City folks have always loved to *mandi sungai* (a dip in the river) and go to *air terjun* (waterfalls). If you have kids, and want to spend quality time with your family, bring them to these locations for a wonderful day of happy memories. Rest assured; everyone will love it.

Klang Valley residents have long frequented Hulu Langat and Ulu Yam for their nature fix. If you live in Gombak or near the city centre, Ulu Yam is just a 30-minute drive away. The river is clean and sometimes even cold. An excellent thing to do when you go is to have a barbecue. Depending on where you stop, you might be charged a minimal fee for the preservation of the bathing/camping site. But it is worth it. How often do you get to lie around in the semi-shade, half drenched in the sun's rays and half covered by the trees' shadow, with a stream gushing by your side? If you find the place too crowded, drive just a bit further to Sungai Chilling, Kuala Kubu Baru.

If you live in Ampang, Cheras, Kajang, or Semenyih, the nearest rivers would be in Hulu Langat, a 30-minute drive away. Rivers and waterfalls are aplenty here. Popular destinations include waterfalls at Sungai Gabai and Sungai Congkak. The waters are quite shallow; suitable if you have small kids. If you are game for a bit of adventure; head on over to Sungai Pangsun for a one-day whitewater rafting experience.

Sungai Tekala, near Semenyih, is also a good spot for its stunning scenery. A much more obscure river, Sungai Batangsi, isn't as beautiful, but at least there aren't as many people frequenting the place. Sungai Batangsi is just 2.5 km from the Semenyih State Road. You'll need to ask around for directions to the place, as the signboards are few and faded. There is also a waterfall in Bentong, 45 minutes from KL, called Air Terjun Chamang.

HEALTH

Controlling cholesterol levels

People should be very concerned about their cholesterol levels. High cholesterol levels are directly linked with heart problems. Build up of cholesterol in the blood will lead to clogged arteries and ultimately heart attacks or strokes.

There are actually two main types of cholesterol: LDL (low density lipoprotein) and HDL (high density lipoprotein). LDL is the "bad" one because this is the main carrier of cholesterol in the blood. HDL is often referred to as "good" cholesterol, because it carries less cholesterol in the blood and carries cholesterol away from the arteries and out to the liver where it is expelled.

Unfortunately, lots of popular Malaysian food have very high fat levels. *Nasi Lemak*, *Roti Canai* and *Char Koey Teow*, for example, all contain lots of fat. Probably because of our eating styles and growing affluence, heart disease is increasingly seen in much younger people these days.

The best way to stay healthy then is to stick to a healthy food diet. Look up food pyramid on the Internet and follow the recommendations. Eat lots of fresh vegetables and fruits as these contain no cholesterol. Eat less red meat like mutton and beef and instead eat chicken and fish. Many fatty fish types like tuna, salmon and mackerel contain omega-3 fatty acids that have been proven to lower levels of fat in the body. Eating grains like oats and soy products are another excellent way to keep cholesterol levels low. In short, more vegetables, fruits, fish and grains and less oily dishes, milk products, meat and eggs.

Exercise also helps keep cholesterol levels low. Research have shown that people who engage in at least 30 minutes of physical activity each day have higher levels of good cholesterol. Even moderate forms of physical activity such as walking or household chores are shown to be beneficial.

Smoking lowers good cholesterol levels. Stop smoking or exposing yourself to secondhand smoke to keep your good cholesterol levels up.

Lastly, keep yourself in the know, and regularly too. A simple blood test is all that is needed to know your cholesterol levels. Take it and get your doctor to tell you what your levels mean, and make sure you take his advice.

FOOD

Kuih-muih

Kuihs are always taken for granted. Nobody bothers to really remember their names. But then again, there are more than 80 different kinds of kuihs–some of which are exclusive to certain states, and cannot be found at your ordinary stall by the roadside in Kuala Lumpur. It is a pity few KLites have tasted or even heard of delicacies like Kelantan's, *Kuih Lompat Tikam*; Terengganu's *Che Abas Demang* or Perlis's *Kuih Cakar Ayam*.

• *Kuih Cakar Ayam*

Not many also know that there are two different families of *kuih*, namely Nyonya *kuih* and Malay *kuih*. The Nyonyas absorbed Malay culture and over time, they've created their own specialties, like *Kuih Moci*, *Kuih Pie Tee* and *Kuih Taba*.

Here's where some of the best kuihs can be found:

Delicious *Kuih Talam* can be found at the pasar malam in Taman Tun and the Bayu Timur restaurant at Jalan SS24/8, Taman Megah. The kuihs at Pinang Masak, Bukit Tunku are also very scrumptious, reportedly. Along Jalan Alor, there's a man who sells kuih from a tray. Try and see if you can spot him in all the bustle of activity. His wares are simply delicious.

Lucky Garden, Bangsar, is also home to lots of reputable Nyonya kuih vendors. There's a man called Lee Yeok Choi who's been selling homemade Nyonya *kuih* since the seventies. If you like *Kuih Ketayap* or *Kuih Dadar*, the Aroma Nyonya Kueh stall at Chun Heong coffee shop in Lucky Garden offers mouth-watering ones. Another stall outside Nam Chuan coffee shop, 2-4 Lorong Ara Kiri, also sells a variety of kuihs every Sunday afternoon.

• *Kuih Ketayap*

But in a pinch, you can always be sure of getting decent *kuih*s at any *pasar malam* in Malaysia.

Note: If you are from outside Malaysia, learn more by looking up *kuih*, *nyonya*, *Peranakan* and *pasar malam* on Wikipedia.

PRODUCTIVITY

Delete those email folders!

Are you bogged down by your emails? Have you tried being systematic by creating folders that cover items such as topics, projects, groups, senders and so on but still find yourself falling behind?

The answer to your problems could be found by doing the opposite: have a lot less email folders - as little as two or three.

The two folder email system has been touted as being brilliantly simple and effective. Instead of spending time organizing incoming emails neatly into folders (that are usually left unattended), the system focuses on actually getting the really important emails attended to and productively.

To get started on this system, just create two folders on your email system: Action Required and File.

When email arrives in the Inbox, any emails that require less than two minutes work should be acted on immediately.. At the same time, everything that is not worth keeping should be deleted immediately.

Action Required

Emails that require more than two minutes work will go into the Action Required folder. These are emails that you will need to spend time on. Examples could be requests for detailed reports or an email that requires you to fill in a long form. These emails automatically become your To-Do list.

You will then need to ensure that you are regularly looking into and taking action on each of these emails. With enough and proper attention, your Action Required folder will not grow into an unmanageable tangle of emails.

File

All other emails go into the File folder. Emails that you might want to refer to at some point in time as well as everything else you did not delete will go in here. This is also where you put in completed items from your To-Do folder.

It may look a bit frightening, putting everything in just one folder but there's really nothing to worry about. A good search application like Google Desktop can easily find anything you want at any time.

The above folders are all you will ever need to manage your emails, no kidding.

Ofcom Awards Three New Community Radio Licences

The United Kingdom's Office of Communications (Ofcom) awarded three community radio licenses, valid for five years, to EAVA FM, Demon FM and Kohinoor FM in June. The three are all based in Leicester.

Community radio services are provided on a non-profit basis focusing on providing specific social benefits to enrich a particular geographical community or a community of interest and typically cover a small geographical area.

EAVA FM (East African Voice Association) is based at the St. Mathews Community Solution Centre and serves the East Africans community with the aim to socially develop, inform and entertain with broadcasts of local news, enterprise, music, information, cultural and educational programmes, all supported by community members and volunteers, private organisations and the public sector.

Demon FM (www.demonfm.co.uk) based at the De Montfort University Students' Union, also works with other further and higher education institutions and will broadcast to young people, primarily between the ages of 16 and 30.

Its broadcasts will include programmes made by members of the target community and it will be a showcase of creative talent, including live events.

Kohinoor FM will serve Leicester's Punjabi speaking population of all ages and faiths, including Hindu, Muslim and Sikh, with a broad range of programmes for community members who cannot access information through normal media channels broadcast the English language or provide programmes not relevant to their tastes and interests.

Hong Kong government to create single Unified Carrier License

The Hong Kong government decided to create the Unified Carrier Licence (UCL) as a single licensing vehicle for fixed, mobile and/or converged services in May.

This move is subject to the negative vetting of the amendment regulations by the Hong Kong's Legislative Council and upon implementation, the Telecommunications Authority (TA) will issue UCLs to all new applicants providing carrier services, while existing licenses will remain in force until expiry, after which the licensees will be issued with UCL's.

This move was driven by what's commonly referred to as fixed-mobile convergence (FMC), where the distinction between fixed and mobile networks and services become increasingly blurred due to market and technology developments.

The new UCL-based licensing will let facility-based operators provide different services under a single and flexible licensing framework, thereby paving the way for FMC.

To protect consumers, the Office of the Telecommunications Authority (OFTA) decided to introduce a license condition under the UCL which empowers the TA to issue codes of practice in connection with consumer affairs and covering matters relating to the better resolution of customer complaints in relation to contractual issues.

India adds 8.46 million new telephone connections in May

The Telecom Regulatory Authority of India announced in June that the number of fixed and wireless telephone subscribers increased by 8.46 million in May, 2008 representing an accelerating rate of growth over the 8 million added in April.

Over the same period, the total number of telephone connections reaches 317 million at the end of May 2008, compared to 308.51 million in April.

The overall tele-density was 27.59% at the end of May, versus 26.89% in April, while total wireless subscribers, including GSM, CDMA and wireless local loop (WLL) subscribers stood at 277.92 million at the end of May. During that month, 8.62 million wireless subscribers were added, compared to 8 million in April.

Over the same period, the overall number of wireline subscribers fell slightly from 39.21 million subscribers in April to 39.05 million in May 2008.

At the same time, the number of broadband subscribers, meaning those with connections supporting 256 Kbps of higher download speeds reaching 4.15 million by the end of May, up from 4.01 million by the end of April 2008.

Finland re-assigns frequencies

Finland's government has decided to re-allocate available radio frequencies released by the digital switchover to a range of services, including new television channels, broadband mobile networks, and high definition TV.

These changes to the frequency allocation plan were decided on 19 June and came into force on 1 July.

One new national multiplex will be allocated to television broadcasting, with the capacity of the multiplex depending on the packaging technology used.

The 790-862 MHz band of UHF frequencies will be allocated to digital broadband 800 mobile networks, as the band is particularly suitable for high-speed wireless broadband services, especially outside built-up areas.

The same band will also be used for radio microphone and military purposes.

For now, the use of wireless audio devices, such as microphones, can continue as before and new frequency bands will be allocated to these devices later.

Frequencies will also be allocated to future high definition television (HDTV) broadcasts. Two national HDTV multiplexes will be included in the VHF frequency band (174-230 MHz) and one HDTV multiplex covering the Helsinki Metropolitan Area in the UHF band.

These frequency allocations will not influence the current television transmissions, with the technology currently required for watching TV remaining valid until the end of 2016 at least.

The first test of HDTV (high-definition TV) transmissions is tentatively planned for September 2009, at the earliest, to supplement the existing supply.

FCC adopts measures benefiting Americans with speech and hearing disabilities

The United States' communications regulator, the Federal Communications Commission (FCC) has taken important regulator steps providing Americans with hearing and speech disabilities with access to the telephone network which is functionally equivalent to voice telephone services.

Until this measure, there was no uniform, consistent way for hearing users of voice services to communicate with speech or hearing impaired users with telecommunications relay service (TRS), and newer, Internet-based forms of TRS, including video relay service (VRS) and Internet Protocol (IP) relay services.

Furthermore, TRS users have typically not been able to access to emergency services but the FCC's order now ensures that Internet-based TRS users have functionally equivalent access to emergency services as normal voice users.

Voice-over-IP service providers must now route emergency calls from Internet-based TRS users to the appropriate emergency services and Internet-based TRS providers must notify their users of these changes.

Internet-based TRS service providers must comply with these directives no later than 31 December, 2008.

Meanwhile, the FCC also extended the time telemarketers must honour Do-Not-Call listed numbers from five years to indefinitely.

This measure is in line with Congress's mandate in the Do-Not-Call Improvement Act of 2007, prohibiting removal of numbers from the Registry unless the consumer cancels the number's registration or it's been disconnected and reassigned or is otherwise invalid.

The Federal Trade Commission has already committed to retain numbers in the registry indefinitely.

Federal Network Agency allocates 116 111 for youth hotline

Germany's regulator, the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway (FNA) has allocated the nationwide number 116 111 to the association Nummer gegen Kummer e. V. (loosely translated: "call number in case of grief or trouble") to use for a youth hotline, for which it currently uses a toll-free (0) 800 number.

The 116 111 number can be called from both a fixed or mobile phone and according to the allocation notice, the service must give children who need supervision and protection the chance to voice their worries and to talk about problems and to find a competent contact person in an emergency.

Numbers beginning with 116 are assigned by the EU Commission to services of social value, which can be reached free of charge throughout Europe and are allocated by the relevant regulator in each EU country.

The 116 111 number is the first to be allocated by the FNA under the EU Commission's specifications and as such, the FNA supports endeavours to make telephone services available throughout Europe.

This allocation comes into immediate effect so the association can take the necessary steps for technical implementation without further delay.

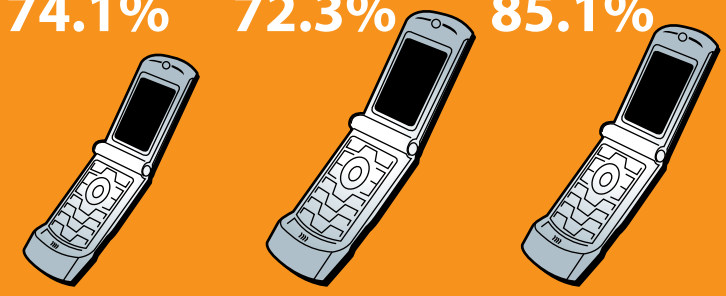
Number of Post Offices

883	915	947	997
2004	2005	2006	2007

Number of SMS text messages

22.0 Billion	33.4 Billion	56.9 Billion
Q4/2005	Q4/2006	Q4/2007

Penetration rates: Cellular Phones by persons



74.1%	72.3%	85.1%
Q4/2005	Q4/2006	Q4/2007

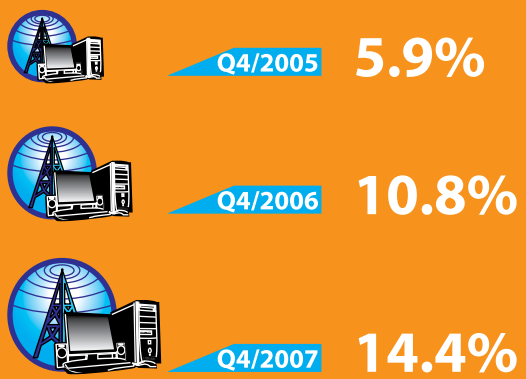
Penetration Rates: Fixed Lines by household

49.5%	48.4%	47.8%
Q4/2005	Q4/2006	Q4/2007

Number of Courier Companies

112	114	109
2005	2006	2007

Penetration rates: Broadband by household



5.9%	10.8%	14.4%
Q4/2005	Q4/2006	Q4/2007

Awareness of Mobile Banking Services

33.5%

YES

66.5%

NO

Comfort Ceiling level for Mobile Banking

	%
< RM50	100
RM50	82
RM100	73.6
RM200	54.4
RM500	25.2

Types of Payment Transactions

	%
Purchace of goods and services from retailers	17.2
Payment for Public Transportation	20.7
Parking Fee	3.4
Payment of Bills	72.4
Remittance or person to person transfer	34.5
Purchase of Mobile Ring Tone	34.5
Others	6.9

Factors that will spur the interest of hand phone users to Subscribe to Mobile Banking Services

	%
More convenience	91.2
More banking services	27.6
Greater Security Feature	24.8
Others	3.2

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