



H S B B :

MALAYSIA'S DRIVE FOR HIGH SPEED BROADBAND

SKMM's Nor Akmar Shah Minan shares details of the High Speed Broadband Project that will provide high speed broadband to crucial areas in the country.

High-speed broadband or HSBB is part of Malaysia's National Broadband Implementation Strategy and the Government aims for the country to achieve 50% broadband penetration by 2010. This involves several strategies in terms of both supply and demand.

According to the Malaysian Communications and Multimedia Commission (SKMM), Malaysia's broadband penetration was 17.5% of households at the end of the third quarter of 2008. That meant that there was still a large market to grow for many service providers.

Also, the increased focus on high tech and knowledge based industries meant that broadband was going to become an essential utility. Not only was broadband a must in areas like high tech parks, it was also necessary in homes. Workers were beginning to work more from their homes.

Just like electricity and water supply are standard features in homes, similar arrangements were going to be needed for broadband services in Malaysia.

High-speed broadband adds to the competitiveness of a nation in the global economy and it is imperative that the nation keeps up with other nations in the rollout of high-speed broadband. The HSBB project is thus a vital necessity that has to be implemented as quickly as practicable as the nation races to achieve the Malaysia Vision of a knowledge based economy in 2020.

A two-pronged strategy is deemed to be necessary to meet the penetration rate target. One comes from the supply side whilst the other from the demand side of the broadband market.

The supply side

On the supply side of the broadband market, the Malaysian Government has defined two categories of broadband. The first is HSBB in selected geographic areas with speeds ranging from 10 Mbps up to 100 Mbps for residential customers using fibre to the curb – namely, roadside cabinets - with the final part of the connection provided via a wire pair into the premises and up to 1 Gbps using fibre directly into premises for businesses and high economic impact areas.

The second is Broadband to the General Population (BBGP) with speeds generally from 256 Kbps to 2 Mbps and all the way up to below 10 Mbps.

HSBB is required for advanced and bandwidth services such as digital homes, medical imaging and multi-channel high-definition TV applications and services. In Malaysia it will be implemented mainly in industrial areas, cities, towns and the various development regions including cybercities and cybercentres, technology parks and the Iskandar Development Region in the southern part of Peninsular Malaysia will feature HSBB.

The Government's strategy to achieve this is through collaborative effort in a public-private partnership.

An agreement to that end was signed between the Ministry of Energy, Water and Communications (KTAK) and Telekom Malaysia (TM) in mid-September 2008 to roll



out HSBB over a period of 10 years. Under its first phase, HSBB access will be provided to over 1.3 million premises by 2012.

Under this initiative, TM will provide last mile access to homes and businesses through three main technologies namely, fibre-to-the-home (FTTH), Ethernet-to-the-home (ETTH) and Very High Speed Digital Subscriber Line (VDSL2).

The Government will co-invest RM2.4 billion (US\$685 million) towards the project, while TM will provide RM8.9 billion (US\$2.54 billion). The Government's portion is mostly to make up for the lower net present value (NPV) due to pushing supply into areas such as new housing estates and new industrial zones which are regarded as non-profitable by the other service providers to do so.

While some in the industry and other commentators have criticised this partnership for providing an advantage to one service provider over the others, the Government sees it as the only practical means to enable quick HSBB rollout, especially when Malaysia is far behind in broadband penetration compared to other countries. It needs to catch up fast. Efficient and speedier roll out is required. TM is the only service provider with an extensive network of fixed

line infrastructures and ducts in place nationwide, so it's simpler, cheaper and faster for TM to do it.

New lifestyle with HSBB

Broadband has the potential to revolutionise the way we live and work, delivering real economic benefits. The demand for multimedia is the prime driver for high-speed broadband. The communications industry has moved to the stage where it focuses on broadband. There is a growing demand for faster Internet access that supports applications such as collaborative networking, video conferencing, telepresence, IPTV, Video on Demand and VoIP. To meet this demand for bandwidth, a growing number of service providers have begun offering high bandwidth to subscribers in key regions worldwide.

The increase in Internet access speeds can be directly linked to the types of services offered over the network. The provision of single play services that were primarily data-only services were responsible for moving dial-up users to ADSL which was mostly provided in Malaysia by

TM through its Streamyx service. Most users basically used the Internet for browsing static content (graphics and text) and email with a little bit of music and video streaming.

Dual play came along and added voice with better quality of service (QoS) to existing data connections. This allowed cost effective voice over IP (VoIP) services along with other value-added services. Though these services were initially of poor quality, customers did not mind as they were provided at low prices.

The networked world has now moved on to triple play which combines Internet access, voice communication (telephony) and entertainment services such as video streaming. Quadruple play adds seamless mobile access to the equation. The growing popularity of social networking applications and personalised services are adding even greater bandwidth demand.

To provide an acceptable level of service for current and future Internet services and applications, HSBB becomes absolutely necessary. The speeds envisaged in the HSBB project along with the move to an all-IP network and

Video conferencing and telepresence require high speed broadband



improved bandwidth management will provide very high quality levels of services and promise subscribers with a TV-like (including high definition) or even better experience.

Economic benefits

HSBB is important economically. According to an Economic Planning Unit study, broadband can deliver significant benefits to Malaysia. Achieving 50% household broadband penetration by 2010 can result in tangible contribution of 1% to country's gross domestic product (GDP) and create 135,000 new high-value jobs in 2010.

That will also create opportunities and markets for applications and content developers.

It will also boost local industries and employment generation directly. The national broadband strategy will enhance human capital and allow for movement up the value chain. It will enable the K-economy and serve as a catalyst for overall national competitiveness.

Open Access to HSBB

To ensure there's no unfair advantage to TM with regards to other service providers, HSBB will be an open network with open access and fair pricing that will allow other service providers fair and non discriminatory access to provide their own services over it for a reasonable fee.

The existing Access Regulatory Framework will be further developed to ensure the network is open and that the pricing is fair. SKMM noted that it is very important to promote an open network without necessarily duplicating the costly last mile and backhaul connectivity to promote economic growth. Service providers would initially be able to seek and provide access from Bitstream services as well as Digital Subscriber Line Resale Service.

The regulatory framework is on an open network access concept. Other industry players will be able to obtain network access on a commercial, non-discriminatory, fair and equitable basis.

For example the HSBB network will be open to other industry players at the applications and network service level. Qualified service and application providers will be able to launch services such as IPTV and other multimedia services on TM's HSBB network. Further, for connection services it will provide access to core and international networks.

Broadband to the General Population

BBGP is the second category in the supply push and it will be deployed in all areas including areas covered by HSBB. It will be provided by current licensees using fixed ADSL (asynchronous digital subscriber line), wireless HSPA (High-Speed Packet Access) or WiMAX (Wireless interoperability for Microwave Access) and this provides an alternative and competitive means of broadband access to many.

The vision for BBGP in 2010 is to ensure enough coverage by the multiple technologies and operating service providers. For example in high economic impact areas where HSBB



It's an increasingly connected lifestyle

is present, multiple infrastructure are likely to exist. HSBB and BBGP coverage will be available across the entire zones providing alternatives and choice, including backhauling support to wireless service providers.

In sub-urban areas the current coverage will be widened under various wired and wireless technologies as mentioned above.

Provision of BBGP in less profitable and rural areas will be funded through the SKMM's Universal Service Provision (USP) fund. The BBGP programme in these areas includes

Basic Telephony (through fixed and mobile network), Community Broadband Library (CBL) and Community Broadband Centre (CBC).

By 2010, 40% of the target of 3.2 million homes will be served by BBGP, while the remainder will be served by HSBB.

The BBGP service providers are not left out as under the 2008 Malaysian budget, the Ministry of Finance approved tax allowances on expenditure on last-mile broadband equipment as an incentive for service providers to roll out their broadband networks.

Among them, last mile network facilities providers will be given an investment allowance of 100% on capital expenditure incurred for broadband up to 31 December 2010.

Import duty and sales tax exemptions will be given on broadband equipment and consumer access devices.

Tax deduction will be given to employers on benefits in kind in the form of new computers and payment of

broadband subscription fees for employees. Such benefits in kind received by the employees will also be tax exempt.

This set of incentives will continue to be reviewed for its effectiveness to further push supply and demand.

The demand side

There is this famous saying which states that you can take a horse to the water but you can't make it drink, so while there is that entire broadband infrastructure in place, what will make people want to use it.

The Government will adopt a three-pronged strategy in three critical areas to create demand.

The first is to create public awareness of the benefits and availability of broadband.

The Government believes that while service providers will promote their broadband products, they may not promote its benefits; so the Government will have to do that together with the Industry.

The multimedia world



Government and private sector initiatives will help create and communicate an icon or brand that encapsulates the benefits of broadband, organise Internet training courses for relevant target groups such as mothers and home-makers, encourage more urban cybercafés to be set up and set up broadband booths at community events.

Overall activities to promote broadband will be planned and coordinated with relevant stakeholders including the industry, while impact studies on the effectiveness of the programme will be conducted to provide feedback on its effectiveness.

The water in the pipe

The second strategy is to develop the attractiveness of having broadband in terms of good content and applications, i.e. the water that flows in the pipe. Here, the Government will focus on providing electronic-Government, distance-education and on promoting electronic-commerce.

Demand for, and the development of private content will be aided by the high quality broadband infrastructure.

Malaysians already spend on average ~5% of their monthly household income on digital entertainment and info-communications services. The current high average revenue per user (ARPU) for pay TV also indicates a high willingness to pay for content.

e-Government services

The Government is also taking actions to raise its capabilities to develop future offerings, such as building effective internal networks and infrastructure; expanding databases and systems integration and inter-operability among different Government agencies; improving coordination by strengthening the current IT governance and control framework. It is also enlarging the IT manpower pool through inter-agency knowledge sharing systems and human capital enhancement programmes.

HSBB and BBGP infrastructure will advance the Government's efforts to reach citizens and businesses with quality online services and improved accessibility to broadband would create efficiency gains through increased usage of Government online services.

One of the e-Government initiatives is the ongoing eKL project covering the Klang Valley and it is currently offering nearly 600 online services. This number is targeted to grow by 2010 with more online services being developed and delivered through several service delivery channels such as agencies' online counters and web services, mobile phone's Short Message Service (SMS), kiosk and bank autoteller machines.

Affordable to all

The third strategy is to make broadband affordable to all. Broadband is currently too expensive for certain social segments which can't afford PCs, broadband subscriptions, modems and other access devices. Coordination will be required with other Government agencies to facilitate PC ownership and broadband take up.

According to figures by SKMM and others, about 60% of middle income earners with annual income between RM18,000 and RM60,000 (US\$5,143 and US\$17,143) found current broadband prices in Malaysia to be unaffordable, while none of those earning under RM18,000 per annum found it affordable, while all of those earning above RM60,000 found it affordable.

A 512 Kbps DSL connection typically costs the equivalent of US\$18 (RM63) per month and it needs to be lower.

There also is an almost linear correlation between PC and broadband penetration, which needs to be addressed. Thus there is a need for action plans to find solutions especially for the above middle and lower income groups.

For example, discussions will be necessary with the Ministry of Finance to lower duties on these equipment and to provide individual income tax relief on their purchases. At present, individual tax relief is only provided for purchases of notebook PCs but this has to be extended to include all equipment and SKMM will continue discussing this issue with all relevant authorities so that the affordability factor is enhanced for the target groups.

SKMM will also work with the industry in formulating broadband packages with low cost PCs and Internet devices.

To improve affordability in rural areas, the SKMM will try to widen community access by providing computers, printers and broadband access in community centres to complement current initiatives by the Ministry of Rural and Regional Development (KKLW) and the Ministry of Women, Family and Community Development (KPWKM). This serves to bridge the affordability factor as well as collaborative learning by the community to understand the benefits of broadband and how they can participate in it.

Community broadband

Telecentres offer a good platform for mass community broadband access and should be strengthened.

To achieve this, a single agency should be designated to coordinate efforts with State ICT agencies to build new telecentres and customise them to be relevant to the local population.

Telecentres should be opened at night and at weekends and IT graduates and students should be hired to operate them at these times. IT graduates should be hired as managers and all should be sent for training in best practice centre management sharing sessions.

It is hoped that Malaysia's targeted approach will bring about results and that the HSBB network will help transform the nation into a knowledge society. [.my](http://www.gov.my)

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