

ITU-T Workshop on Bridging the Standardization Gap and Interactive Training Session

(Cyberjaya, Malaysia, 29 June – 1 July 2010)

Business Experience In Implementation of WiMax

MTSFB : Wireless Terminal Working Group

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Contents

1. Introduction
2. Malaysia's Broadband Penetration
3. WiMAX Spectrum Award
4. P1 Journey
5. Challenges Faced and Implementation Issues

MTSFB

- 1. WIRELESS TERMINAL WORKING GROUP (WT WG)**
- 2. IMT WORKING GROUP (IMT WG)**
3. MULTIMEDIA TERMINAL WORKING GROUP (MMT WG)
4. INTERNET PROTOCOL VERSION 6 (IPv6 WG)
5. MULTIMEDIA NETWORK INFRASTRUCTURE WORKING GROUP (MNI WG)
6. FIXED NETWORK INFRASTRUCTURE WORKING GROUP (FNI WG)
7. RADIOCOMMUNICATIONS NETWORK INFRA. (EXTERNAL) [RNI (Ex) WG]
8. RADIOCOMMUNICATIONS NETWORK INFRA. (INTERNAL) [RNI (In) WG]
9. OCCUPATIONAL SAFETY & HEALTH WORKING GROUP (OSH WG)
10. SATELLITE ROADCASTING WORKING GROUP (SB WG)
11. GREEN ICT WORKING GROUP (GICT WG)
12. FIXED TERMINAL WORKING GROUP (FT WG)
13. NEXT GENERATION NETWORK WORKING GROUP (NGN WG)
14. HIGH ALTITUDE PLATFORMS WORKING GROUP (HAPS WG)
15. DIGITAL TERRESTRIAL TV BROADCASTING WORKING GROUP (DTTB WG)
16. WIRELESS INDUSTRY EMISSION WORKING GROUP (WIE WG)
17. POWER LINE COMMUNICATIONS WORKING GROUP (PLC WG)
18. DIGITAL RADIO BROADCAST WORKING GROUP (DRB WG)
19. BROADCASTING NETWORK INFRASTRUCTURE WORKING GROUP (BNI WG)

MTSFB

Wireless Terminal Working Group (WT WG)

■ WT WG Leaders:

- Chairman : Dr. Mazlan Abbas (MIMOS)
- Vice Chairman : Mr. Glen Cha (Nokia)
- Secretary : En. Najib Mohd Fadli (TM)

■ There are 58 members in the WT WG comprises local and international representatives

■ The deliverables are to revise and update the following documents:-

- i. Technical Specification for Short Range Devices (SRD)
- ii. Technical Specification for Broadband Wireless Access (BWA)
- iii. Technical Specification for GSM Mobile Terminals
- iv. Technical Specification for IMT-2000 Third Generation (3G) Cellular Mobile Terminals

Current Broadband Penetration Trend (Malaysia)



Population Broadband Penetration

9.9%

(population: 28.31mil)*

Household broadband Penetration

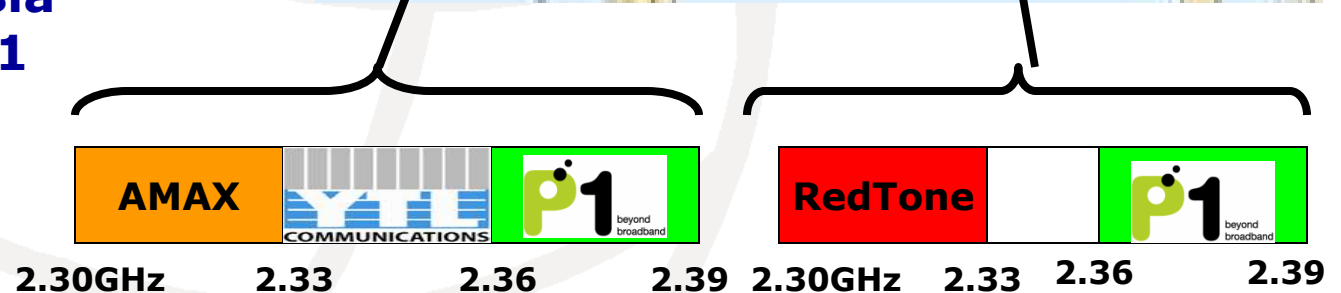
33.2%

(homes:6.153mil)*

WiMAX Spectrum Award

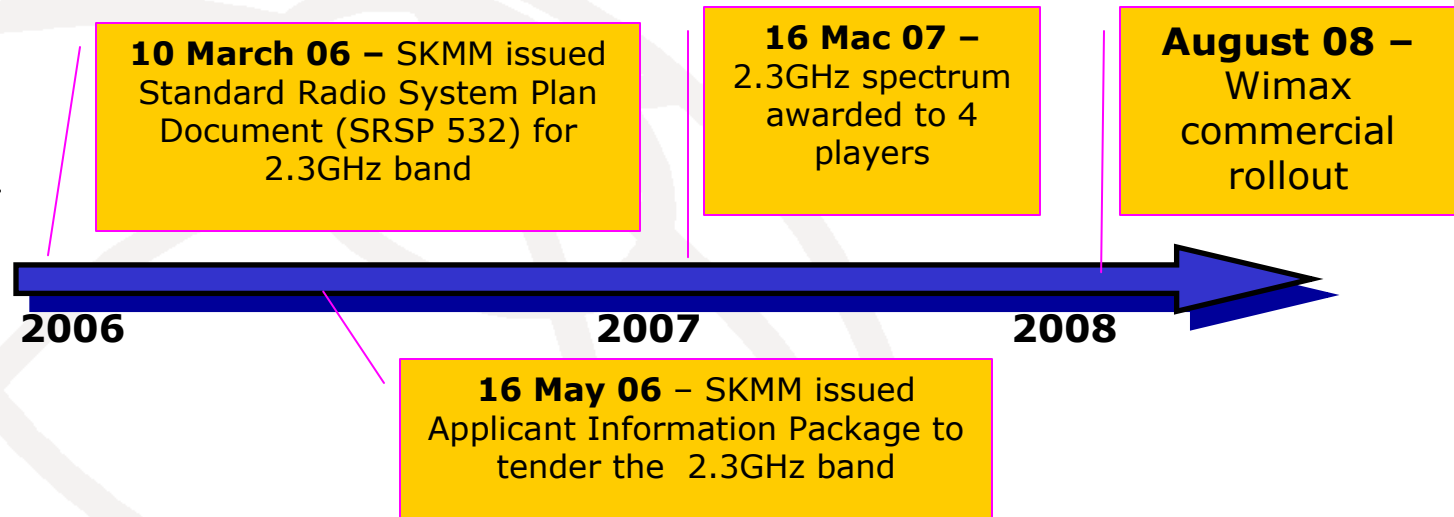
WiMAX Spectrum announcement:

- **March 2007**
- **2.3GHz Band**
- **4 companies were awarded the spectrum:**
 - **West Malaysia – P1, AMAX, YTL Coms**
 - **East Malaysia – RedTone, P1**



WiMAX Spectrum Regulation in Malaysia

Chronology



SRSP 532

- **From 2300MHz to 2400MHz, divided into 20 sub-blocks, each sub-block consist of 5MHz**
- **Allow usage of single or multiple sub-blocks per channel**
- **Allowed BS radiated power up to 40dBm EIRP per RF Channel (currently being revised for higher value)**
- **Revision also include inclusion of Block Edge Mask (BEM)**

Private & Confidential.

Powered by Packet One Networks

WiMAX Spectrum Regulation in Malaysia

■ Applicant Information Package (AIP) 2006

- **Tender 2.3GHz via Apparatus Assignment**
- **Submit 5 years rollout plan**
- **Divided into 13 Geographical Areas**
- **Spectrum Fee as prescribe in Spectrum Regulations**
- **6 x 5MHz per operator (inclusive guard bands)**
- **Performance guarantee RM8.7mil nationwide**
- **Evaluated based on 5 criteria :**
 - **i. Roll-out Strategy(15%); ii. Coverage (40%); iii. Technology and Network(15%); iv. Services (20%); v. Management (10%).**

WiMAX Spectrum Award

Main Commitments:

- **Service launch by end of August 2008**
- **Population Coverage**
 - **25% by end of 1st year**
 - **40% by end of 3rd year**
- **Quality of Service (SLA)**
 - **70% of promised bandwidth, 90% of the time**

The P1 Journey





The P1 Journey... Roll out strategy

2008

Fixed



2009

On-the-go



2010

Mobile



The Journey

#1

WiMAX (2360 – 2390MHz)
operator
in Malaysia

*Second largest 2.3Ghz deployment in the world
WiMAX Forum Board Member*

175,000+

subscribers as of Q1 2010

8.5m+

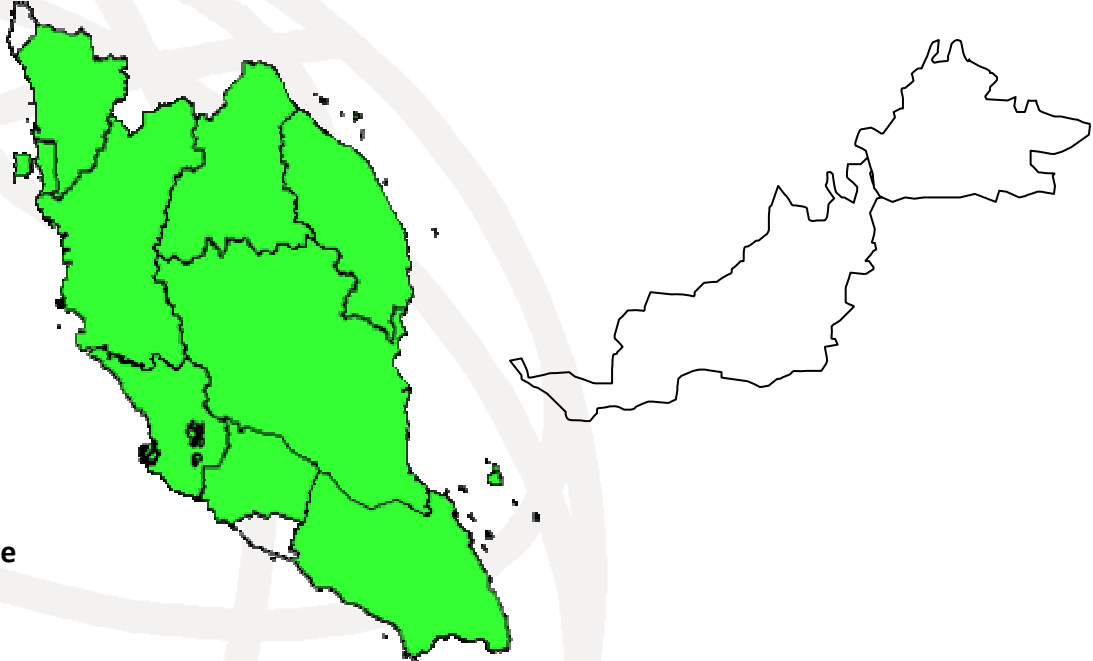


Malaysian population covered

Total Malaysian population: 28m+

Building The Coverage

Over
35%

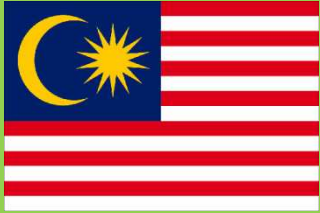

WiMAX Coverage in
Peninsular Malaysia
(until March 2010)

- 
-  States with P1 W1MAX Coverage
(35% of pop. coverage)
 -  States have yet to be covered
by P1 W1MAX

Coverage targets

- 2009: 35% population coverage of Peninsular Malaysia
- 2010: 45% population coverage of Malaysia
- 2012: 65% population coverage of Malaysia

Building The Coverage: Why WiMAX works in Malaysia

		
Land size	329,750 sq km	100,032 sq km
Population (mil)	28.31	48.51
Population/sq km	85.82	486.81
No. of Household(mil)	5.66	16.67
BB Penetration(HH)	33.2%	95%
BB Penetration(POP)	9.9%	31.9%

Cyberjaya, Malaysia, 29 June – 1 July 2010

Source: MCMC, Wikipedia, CIA World Fact book, Internet World Statistics

Driving The Sales: Devices



DV-230 Desktop Modem



UF-230G USB WiFi Adaptor

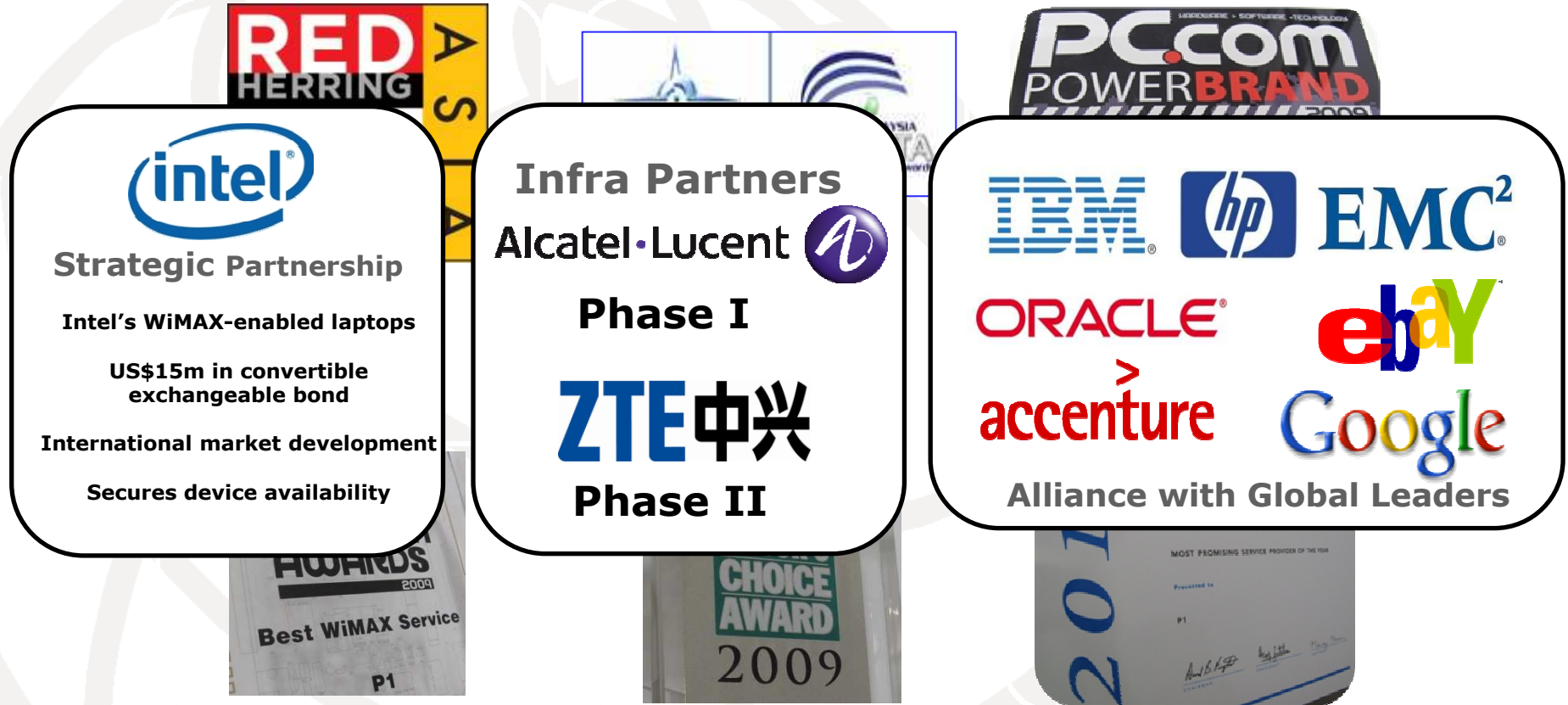
DV230, with integrated Wi-Fi and voice functionality, adds to this ease-of-use proposition by omitting the need to configure a separate Wi-Fi router



WIGGY is tiny.
When bored, turn to your WIGGY
P1 wimax

WIGGY, P1's on-the-go product and Malaysia's most advanced USB WiMAX modem

The P1 Journey...



Product Awards - Best WiMAX

2009 HWM Editor's Choice - Best WiMAX Service Provider

2010 Frost & Sullivan - Most Promising Service Provider

The **P1** Journey... leader in the world



- Board Member

Top 4

- Clearwire, **P1**, UQ & Yota

World
map

- Lead telco in 2.3Ghz validation

Driving The Sales: Embedded Device



- **P1 and Intel** are working very closely to launch **Malaysia's first range of WiMAX-embedded laptops** and we're now at the final stretch
- P1 will join the likes of Clear, UQ and Yota – amongst the world's leaders in WiMAX deployment – to introduce WiMAX-embedded into the market
- Affordable embedded chipsets will help tremendously in terms of lowering subscriber acquisition costs and the ability to market a wider variety of devices.

Challenges Faced



2.3GHz WiMAX Profile Issue

Adjacent Channel Issue

International borders

Site acquisition

Misperception on Radiation

Implementation Issues

2.3 GHz WiMAX Profile Issue

- **P1 is deploying profile MP02 (2.3GHz, 10MHz channel bandwidth, 1024 FFT) equipment.**
- **MP02 is still not finalised at WiMAX Forum level**
- **Difficulties in IOT between vendors and CPE design.**

Adjacent Channel Issue

- **P1 has been awarded 2.36-2.39GHz, side-by-side with another WiMAX operator.**
- **Both operators need to have harmonised synchronisation and similar TDD Ratio in order to avoid adjacent channel interference.**
- **Requires numerous coordination effort especially during the initial stage of network rollout.**

Implementation Issues (cont'd)

International borders

- **Both Regulators (Malaysia's SKMM & Singapore's IDA) have agreed to split 2.3GHz band at international borders, where Malaysia will use only the upper half of the band within the coordination zone (50km from the borders).**
- **Insufficient spectrum to operate mobile WiMAX at borders.**

Site acquisition

- **Land & building owners see new WiMAX operators as a giant, established company just like the incumbent GSM/3G operators.**
- **High rental cost.**
- **Resident protests due to fear of RF radiation, which prolongs implementation process.**

Site Acquisition Issues

Planning the infrastructure

- ❑ Town planners **do not account for space** for fibre and wireless infrastructure
- ❑ **No centralised mapping** of underground ducting, cables, and pipes
- ❑ **No commercial power supply** or slow deployment especially in rural areas (TNB, SESCO, SESB)

Approving the infrastructure

- ❑ **Multiple** agencies' approvals required, resulting in a time-consuming process (MPPP, MPSP, DBKL in Penang and KL; USM, UKM, UPSI, UUM, UTP in IPTA; KPTG and PTG on state land)
- ❑ Local councils **act differently** across states
- ❑ **Limited right of way** for telco infrastructure, and approved on a **case-by-case** basis

Building the infrastructure

- ❑ Developers **do not build fibre** or ducting into new builds
- ❑ SBCs have an **exclusive right** to build towers in certain states (Sarawak, Melaka, N Sembilan)
- ❑ SBCs **build slowly** (KJS, PINS, PDCTS, RMNS, MICTH)

Accessing the infrastructure

- ❑ SBC pricing **high** and **volatile**
- ❑ Local authorities may **retract permits** and take down infrastructure without consultation with telcos
- ❑ **Costly safety audits** required for permit renewals (Johor, Kedah)

Misperception on Radiation

minority group of people overshadow the need of majority

Lack of awareness and unfounded fears on the effects of base station radiation

**Lack of awareness on the process that telcos have to abide to operate a base station
(i.e. the requirements/approvals from various regulatory bodies)**

Before a site is commissioned. Stringent regulations to protect the community

Involvement of politicians with vested interest and due to lack of awareness

Need for Proper Education



"Wrong info on radiation"



"Misleading headlines about phones giving you cancer is rubbish . If we're going to panic, lets do it well , and keep disbelief suspended"

There is a need to educate the general public on the facts regarding the role of communication structures in the country and to allay fears of perceived radiation from base stations.

Thank You

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