DEPLOYING A TRULY NEXT GENERATION BROADBAND NETWORK – THE TELEKOM MALAYSIA’S (TM) EXPERIENCE

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1. Pre-Transformation - Where we were
2. Dream and Vision
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**Challenges:**

- Voice Revenue declining
- Fixed to mobile substitution
- Obsolete Platforms
- Quality Issues
- Multiple and disparate Networks
- High maintenance costs
- Poor customer experience

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<td>Very old copper Cabinets High TT Weather prone</td>
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<td>ATM and Core IP Network that is always congested</td>
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...there is a growing demand to provide for a new digital lifestyle.

It will change how people talk, collaborate, shop, play, socialize, entertain, watch movies, listen to music, read, etc.
We need a transformation! — Deploy Next Gen Infrastructure

Migrate Legacy Platforms

All IP Infrastructure

Move aggressively to Fibre
TM and the Malaysian Government - common vision to roll out fiber infrastructure – HSBB Project conceived

**Shared vision**
- Malaysia to become a high income country through competitive infrastructure and competitive business environment
- High speed broadband must be part of a competitive infrastructure

**Adopt regulatory model championed by many Asian countries**
1. Joint investment from government to develop fiber network
2. Ensure a pervasive infrastructure
3. Accessible by any service provider
4. Wide coverage in high impact areas

In September 2008, TM and the Government signed a Public Private Partnership agreement to roll out the High Speed Broadband (HSBB) Project
**HSBB COVERAGE AREAS**

**LEGEND**
- High Speed Broadband (HSBB)
  - High economic impact areas
  - Industrial parks/FTZs covered
- Broadband to General Population (BBGP)
  - Urban/Semi-urban and rural
  - Less populated areas

**BBGP and HSBB combine to form the national broadband landscape**

Areas are indicative, not to scale and may change according to detailed plan.
On the onset we knew that providing triple play services is key to the HSBB Project. UniFi was created and was launched by the Prime Minister on 24 March 2010.

 Origins

- English “unify” – To make into or become a unit, to unite
- English “uni” – prefix meaning “one”
- “Fi” – Fiber optics

 Meaning

- Implies togetherness and camaraderie (Uni) through fiber optics (Fi)
- Alludes to a unified platform to a communication made possible by IP technology
HSBB JOURNEY

1. HSBB Overview & coverage areas
2. Architecture & Design
3. Procurement of Material & Equipment
4. Expand workforce & Contractors
5. Training of workforce & contractors
6. Detail Planning and Design
7. Verification
8. RFSI
9. Project Management
Access Network Technology:
1. MSAN – VDSL2: Fibre cable is installed from the Exchange to the SDF Room / Telecommunication Room (TR) at the Building. MSAN is installed in the SDF room / TR and utilises the existing copper cable in the building for HSBB service activation.

2. ETTH: Fibre cable is installed from the Exchange to the ETTH equipment in the building. CAT5 or fibre cable will be used for last mile connection to subscriber CPE.

3. FTTH: Fibre cable is installed from Exchange to subscriber’s premise.
MSAN-VDSL and ETTH Deployment

- MSAN in SDF room
- ETTH in Sub's office
- Fibre Cable
- Existing Copper Cable
- ETTH in SDF room
- TM Exchange
- Metro-e
- Manhole and cable closure
To Provide for resiliency the E-side is configured in ring topologies.
What does it takes to deliver projects?

- Early Planning & Organizing
- Sufficient Resources
- Efficient Implementation

Diagram showing:
- Strategy
- Planning
- Budget
- Training
- Material
- Logistic
- Procurement
- Contractors
- Manpower
- Site Survey
- Scheduling
- Testing
- Commissioning
- Track & Monitor
- Way Leave
The Challenges in Delivering HSBB

1. Local Authority Approval
2. Resource Management
3. Competent Resources
4. OSH Compliance
5. New Designs & Architecture
6. Contractor & Vendor Management
7. End to End Project Management
The journey – the real deployment scenario. The challenges...

Ensuring no shortage of materials at Malaysian Logistics

- Fibre Drums
- VDSL Equipment
- PVC Ducts
- Sub-ducts
FTTH PASSIVE COMPONENTS

Termination box

Wall socket

Fiber DP
The journey – the real deployment scenario. The challenges...

Training, Consultation & Hands-on Training to Staff and Contractors
The journey – the real deployment scenario. The challenges...

Design and Planning teams at site
The journey – the real deployment scenario. The challenges...

**CIVIL WORKS**

- Horizontal Directional Drilling (HDD)
- Laying PVC Ducts
- Mill & Pave
- Laying Flexible (Inner) Ducts
The journey – the real deployment scenario. The challenges...

Mill & Pave

Night Works

Mill & Pave

Cable Pulling

Cable Pulling
OSH Compliance
Involving ND project supervisors and JKH staff

Certification & safety passport

Complete safety gears
- PPE, helmet, safety vest & boots

Right tools & test gears

Safety audit
Equipment installation at exchanges
The journey – the real deployment scenario. The pains & challenges...

**Quality Issues - Material**
Quality Audit teams were set up...

HSBB/BAU Quality Audit Team consist of regional FJM, HSBB access unit and PPM. Audit being done every week per contractor basis.
Scope audit:
- Check on quality of work on FDC, DP, ODF etc
- Random Testing DP (End to end test)
- OSHE compliance
The journey – the real deployment scenario. The pain & reward.

Daily Management Huddles

Nightly HSBB Access Meetings

Fortnightly JKH Quality Audit Steering Committee Meeting

Daily Statistic & Tracking updates.
Project Management Tools Evolution....

1. **OPMS**
   - Used to track and monitor progress of service delivery

2. **SMART**
   - Used for daily team attendance & productivity record
   - Clear visibility of team productivity allows supervisors to identify which team need adequate support/coaching
   - Encourage healthy competition and self-improvement amongst teams by calling out high performers
   - Provide visibility into team’s current performance

3. **PROPER**
   - Structured project tracking approach
   - Structured project progress update and tracking approach
   - Automated calculation of project RFS target and sub-activities planned end dates once project/order is registered and received
   - Link orders to related projects

4. **PROMiSE**
   - P6 EPPM - Windows-based project planning and scheduling functionality
   - P6 Team Member - Update status & progress of assigned tasks
   - P6 Analytic - reporting tool with advanced visual features, including pre-built dashboards with P6 data

SOURCE: TOP team analysis & ND
The results so far – Highlights Achievements on HSBB

HSBB ACHIEVEMENTS

- ~1.78 mil ports installed with a coverage to 3 mil homes
- IPTV was deployed and operational within 6 months of delivery date.
- Already secured 900,000 Unifi subscribers.
- HSBB Wholesale to other operators
- New OSS/BSS was operational in 9 months (4 main releases launched in 12 months). This includes Order processing, Fulfillment, Assurance and Billing.
TM has also realised several accolades in its HSBB deployment. With over 440,000 customers in slightly over 2 years, this translates to a respectable 37% penetration rate.

Amongst the **fastest fibre rollout** in the world – End-to-end infra in 18 months plus IPTV service in 6 months.

**McKinsey & Co**

**700,000 km of fiber** cable has been laid – equivalent to 17 round trip across the globe

**BT Telconsult**

TM’s choice of architecture ... made it one of the **fastest and lowest cost HSBB deployments** in the world

Tremendous take up – **25,000 new customers a month** and growing

We need to establish a **world-class broadband infrastructure** to compete with other nations around the world, **like Malaysia** and other Asian nations

**Frank Mather**

**European Commission DG**

Malaysia is the **fastest growing FTTH market** in South East Asia and is a success story for FTTH globally

**Frank Jaffer**

**President FTTH Council AP**
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Broadband phase 2 set to take off

RM3.4bil allocated for HSBB2 to reach more households and deliver higher speeds

A SURE bet of B40 households will be allocated for the next phase of the country's high-speed broadband (HSBB) programme. B40s, RM3.4bil will be set aside for 10恐惧 web access to reach more households nationwide.

The budget will be invested in areas which are currently non-covered, aiming to connect at least 2.3 million B40 households nationwide. The budget will be invested in areas which are currently non-covered, aiming to connect at least 2.3 million B40 households nationwide.

The budget was announced by Barisan Nasional's economic policy committee chairman Ahmad Zahid Hamidi in his Budget 2014 speech at the Dewan Rakyat on Wednesday. Zahid said the allocation would be used to expand the existing broadband network to reach B40 households.

The Malaysian Communications and Multimedia Commission (MCMC) had identified 1.7 million B40 households nationwide that can benefit from the programme.

The allocation is in line with the government's target to connect 100% B40 households with internet services by 2015.

The Budget Committee (BUDGET) 2014 Report released by the Department of Statistics (DOS) today shows that the allocation is in line with the government's target to connect 100% B40 households with internet services by 2015.

A tremendous growth of data is expected over the next few years

TH OOI Beng Soon, the director-general of the Department of Statistics (DOS), said the allocation is a significant step in the government's efforts to bridge the digital divide among B40 households.

Ooi said the allocation would help to improve connectivity in rural areas, where internet access is limited.

Ooi added that the allocation would also help to boost the economy by creating new jobs and opportunities for businesses.

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Projects will cover 95 exchange areas.
Mostly are State Capitals & Major Town areas.
Overlay to existing access network.
Speed up to 100Mbps and to deliver 390 K ports

Projects will cover 400 + exchange areas.
Mostly is Sub-urban areas.
Technology use : FTTH and xDSL
To deliver 420K ports
Conclusion

The first phase of the HSBB implementation completed on time and budget

Recorded over 900 K new customers and becoming the first country in South East Asia in the number of lines

Continued and committed to provide optimal technologies to support future applications of business

Open Access to support the agenda of the Govt to stimulate a vibrant ICT Industry

Overall TM is optimistic on the future of telecommunications in Malaysia
“We have faced many challenges before and will face many more bigger challenges, but with the help and support from everyone, we can achieve our goals”

“Communication, coordination & one mindset are key!”
Thank you