



# **SUMMARY REPORT ON**

**26<sup>th</sup> APT Standardization Program  
Forum (ASTAP-26)**

**9 – 12<sup>th</sup> SEPT 2015  
Centara Grand & Bangkok  
Convention Centre  
Central World**

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**On Behalf  
MALAYSIAN TECHNICAL STANDARDS  
FORUM BHD**

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## 1. Introduction /Background

The **26th APT Standardization Program Forum (ASTAP-26)** was held from 09 to 12<sup>th</sup> September 2015 in Bangkok, Thailand

The objective of the **ASTAP-26** is to promote, coordinate and harmonize telecommunication standardization activities and study questions activities across the Asia Pacific region through regional cooperation. The expert groups will meet to enhance the level of expertise on standardization among the membership and expands the study questions activities through practical contributions and solutions on the ICT issues in this region. The forum will continue to promote telecommunications standardization activities on a wide range of ICT work in the region.

### 1.1. Report Objective

This report is summary from the forum that covers from all inputs such as report of the Secretary General, Industry Workshop, ASTAP Advisory Board, Working and Expert Group presentations, meeting and discussion. It will be used as a reference for Regulatory and Technical Standard body such as MCMC and MTSFB, ICT Players, includes Service Providers, Manufacturers, Universities and etc., to draft, propose, recommend, implement and enforce ICT related services and network infrastructure. By having this, it will be possible to avoid and eliminate any deployment of non-standard network infrastructure, systems, applications and services. Hence, the issues such as interoperability, security, safety and etc., can be reduced.

This report also will help MTFBS and MCMC actively contribute and propose draft for any technical standards for Malaysia in the next ASTAP, ITU, IETF and 3GPP meeting.

### 1.2. Introduction/Background

The **26th APT Standardization Program Forum (ASTAP-26)** is platform for ICT players such as service providers, manufacturers of communications equipment, researchers, academia's and development organizations active in the field of communication, information and innovation technologies, so called APT members to participate in the workshop, showcase and testing. The participants will be able to receive latest update, contribute, discuss and develop a common proposals related to ICT industries.

The current Structure of the ASTAP consists of Plenary, Advisory Board, Working Groups (WGs), Expert Groups (EGs), Joint Coordination Groups (JCGs), and other related groups.

### 1.3. APT Structure



### 1.4. APT Document Format

ASTAP-26 Meeting Documents were labels as follows;

- 1.4.1 Administrative Document: ASTAP-26/ADM-XX
- 1.4.2 Input Document: ASTAP-26/INP-XX
- 1.4.3 Information Document: ASTAP-26/INF-XX
- 1.4.4 Temporary Document: ASTAP-26/TMP-XX
- 1.4.5 Output Document: ASTAP-26/OUT-XX

## 2. List of Participants

The forum was attended by the experts from various fields such as regulators, technical experts, engineers, academia's and etc. whose related in Information & Communication Technologies (ICTs) includes ICTs players, service providers, manufacturers, regulators and standards bodies from Asia Pacific Region. The following are the list of activities and the participants from MTSFB:

### 2.1 Forum & Event

26<sup>th</sup> APT Standardization Program Forum (ASTAP-26): 09–12<sup>th</sup> Sep. 2015)

### 2.2 List of Participants (MTFSB)

- a. Zaharin Mohd Nadzri: IPv6 WG Vice Chairman/IMT WG Secretary/Celcom

## 3. Agendas/Topics

The agenda/topic from 26<sup>th</sup> APT Standardization Program Forum (ASTAP-26) as follows;

09:30 – 10:20	10:20 – 10:40	10:40 – 12:00	12:00 – 14:00	14:00 – 15:20	15:20 – 15:40	15:40 – 17:00
<b>Session 1: Opening and Plenary</b> <ul style="list-style-type: none"> <li>• Welcome Remarks by Ms. <del>Arcawan</del> <b>Hagransi</b>, Secretary General, Asia-Pacific Telecommunity</li> <li>• Opening Remarks by Mr. Yoichi Maeda, Chairman, ASTAP</li> <li>• Adoption of Agenda and Program</li> <li>• Allocation of Documents</li> <li>• Summary Record of ASTAP-25</li> <li>• Status of APT Study Questions</li> <li>• Progress Report of the ASTAP Working Groups</li> <li>• Consideration of the documents assigned to the Plenary</li> <li>• Report of the APT/ITU Conformance and Interoperability Event 2015</li> <li>• Any other matters</li> <li>• Group Photo</li> </ul>	COFFEE BREAK	<b>Session 2: WG Policy and Strategic Coordination (WG PSC)</b> <ul style="list-style-type: none"> <li>• Adoption of Agenda</li> <li>• Document allocation</li> <li>• Chairmanship of the EGs</li> <li>• Objective and Expected Outputs of the EGs</li> <li>• Progress Report of the EGs</li> <li>• EG Meeting Schedule</li> <li>• Any other matters</li> </ul>	LUNCH BREAK	<b>Session 3: WG Network and System (WG NS)</b> <ul style="list-style-type: none"> <li>• Adoption of Agenda</li> <li>• Document allocation</li> <li>• Chairmanship of the EGs</li> <li>• Objective and Expected Outputs of the EGs</li> <li>• Progress Report of the EGs</li> <li>• EG Meeting Schedule</li> <li>• Any other matters</li> </ul>	COFFEE BREAK	<b>Session 4: WG Service and Application (WG SA)</b> <ul style="list-style-type: none"> <li>• Adoption of Agenda</li> <li>• Document allocation</li> <li>• Chairmanship of the EGs</li> <li>• Objective and Expected Outputs of the EGs</li> <li>• Progress Report of the EGs</li> <li>• EG Meeting Schedule</li> <li>• Any other matters</li> </ul>

### 3.1 Session 01: Opening and Plenary

- 3.1.1 Welcome remarks
- 3.1.2 Adoption of Agenda
- 3.1.3 Summary record of ASTAP-25

### 3.2 Session 02-04: Working Group (WGs) Update

- 3.2.1 WG PSC
  - a. Adoption of Agenda
  - b. Progress Report of the Expert Group (EGs)
    - i. EG BSG
    - ii. EG ITU-T
    - iii. EG PRS (ASTAP-26/INP-43)
    - iv. EG GICT & EMF

- ❖ **ASTAP-26 Working Group Meeting Notes as follows;**
  - Review Work plan (ASTAP-25/OUT-06)
  - Review APT Strategy Plan for activities of WG (ASTAP26/INF-18)

### 3.2.2 WG NS

- a. **Adoption of Agenda**
- b. **Progress Report of the Expert Group (EGs)**
  - i. EG FN&NGN
  - ii. EG SACS
  - iii. EG DRMRS

- ❖ **ASTAP-26 Working Group Meeting Notes as follows;**
  - Review Work plan (ASTAP-25/OUT-10)
  - Future Transport Network Technology including (ASTAP-25/INF-29)
    - Ethernet Switch, Router, DSL, IT Security and VoIP
  - RoF RoF in wired/wireless seamless access communication to address resilient access network, mobile front/backhaul & RoF relay indoor network.
  - Progress Report\_EG-DRMRS (ASTAP-26/INP-35)

### 3.2.3 WG SA

- a. **Adoption of Agenda**
- b. **Progress Report of the Expert Group (EGs)**
  - i. EG M2M
  - ii. EG IS
  - iii. EG SNLP
  - iv. EG MA
  - v. EG AU

- ❖ **ASTAP-26 Working Group Meeting Notes as follows;**
  - Review Work plan (ASTAP-25/OUT-15)
  - Information Security Update
  - Intro. Digital Signage: Interoperability Info Services in Public Area (ASTAP-26/INP-22)
  - Proposal for the guidelines for secure use of IT devices and Services (ASTAP-26/INP-29)
  - KDDI Handbook v5 (ASTAP-26/INF-07)
  - C-NICT (ASTAP-26/INF-08)
  - Document CMUTHAI Draft (ASTAP-26/INF-09)
  - Introduction of a use case in Japan for Speech and Natural Language Processing Technologies (ASTAP-26/INF-12)
  - Report on IPTV Testing (ASTAP-26/INF-18)
  - Report on IPTV Terminal profiles in APT Region (ASTAP-26/INF-19)

### 3.3 Session 05-10: Expert Group (EGs) Breakout

Date	10 September 2015				11 September 2015			
Time	09:00-10:20 (Session 5)	10:40-12:00 (Session 6)	14:00 – 15:20 (Session 7)	15:40 – 17:00 (Session 8)	09:00 – 10:20 (Session 9)	10:40 – 12:00 (Session 10)	14:00 – 15:20 (Session 11)	15:40 – 17:00 (Session 12)
<i>Lotus Suite 1-4</i>		EG GICT & EMF (1)	EG M2M (1) <u>ZAHARIN</u>	EG ITU-T (1)	EG ITU-T (2)	EG M2M (2)	WG SA <u>ZAHARIN</u>	WG NS <u>ZAHARIN</u>
<i>Lotus Suite 9</i>	EG BSG(1)	EG PRS(1)	EG MA (1)	EG BSG(2)	EG MA (2) <u>ZAHARIN</u>	EG FN&NGN (2) <u>ZAHARIN</u>	N/A	N/A
<i>Lotus Suite 10 / Lotus Suite 5</i>	EG SACS(1) <u>ZAHARIN</u>	EG FN&NGN(1) <u>ZAHARIN</u>	EG DRMRS (1)	EG SACS(2) <u>ZAHARIN</u>	EG DRMRS (2)	EG DRMRS (3)	N/A	N/A
<i>Lotus Suite 11 / Lotus Suite 6</i>	EG AU(1)	EG IS(1)	EG SNLP (1)	EG AU(2)	EG SNLP(2)	EG BSG(3)	N/A	N/A

ASTAP-26 Expert Group Meeting Notes as follows;

#### 3.3.1 WG NS

##### a. EG FN&NGN

- i. Adoption of Agenda
- ii. Review of Progress Report/Presentation/Discussion of Input/Information Document (INP/INF)
- iii. Discussion on ToR/Workplan/APT Strategy Matrix and Future Activities
- iv. Meeting Outcome & Deliverable
- v. Agenda (ASTAP-26/ADM-14) - (ASTAP-26/ADM-07)
- vi. Presentation/Meeting Update/Input/Information Document

##### • **ASTAP-26-INF-11\_SG13-progress\_report\_to\_ASTAP**

- SG13 Future Networks
  - i. Future Networks
  - ii. Mobility Management and NGN
  - iii. Cloud Computing
  - iv. SDN
- Study Group (SG)
  - i. NGN-e and IMT
  - ii. Cloud Computing and Common Capabilities (C4)
  - iii. SDN and Networks of Future
- Key Topics
  - i. Cloud Computing (Qs 5/13, 14/13, 17/13, 18/13 and 19/13, Cloud Computing roadmap, Y.35000-series)
  - ii. IoT (Qs 2/13,3/13, 5/13,and 11/13, Y.2060- and Y.2070-series)
  - iii. Big Data (Qs 2/13, 6/13 and 14/13, Y.3300-series, Y.SDN-series)
  - iv. SDN (Qs 11/13, 12/13, 13/13, 14/13, 15/13, 16/13, Y.3000-series, Y.FN-series)
  - v. Future Networks
- Major Topics
  - i. Network standardization requirement for the 5G development of IMT for 2020 and beyond
  - ii. Open Platform for Experts, Gap to be filled by ITU-T Study Group 13 studies
  - iii. Produce materials of gap analysis of IMT-2020
- Recent Progress of SG 13 – Technical Matters (Approved)
  - i. Second ITU-T Rec on SDN, Y.3320 on formal methods for SDN
  - ii. Two common texts with ISO IEC/JTC 1/SC38 Y.3500and Y.3502
  - iii. In addition to the above two more Recs on CC
  - iv. Four Recs on Future Networks

- v. One Rec on emergency communications
  - vi. Two Recs on IoT
  - vii. One Rec on smart grid Started Big Data roadmap
- **ASTAP-26-INF-04\_NTT-Sync\_v2.0**
    - Timing in TDM Network
    - Sync Methods
      - i. Network Sync
      - ii. GNSS (GPS, Galileo, GLONASS, QZSS etc.)
    - PTP (Precision Time Protocol) – Explanation
      - i. GM -> Boundary Clock (BC) ->
    - Applications of Time Synchronization
      - i. Accuracy
    - NTP – Low
    - GPS – High
    - Requirement
      - i. Network Profile
      - ii. Redundancy
      - iii. Interfaces
      - iv. Multi domain
      - v. Link Asymmetry and packet delay
  - **ASTAP-26-INF-05\_NTT-T-SDNv2.0**
    - SDN/NFV explanations
    - Network Architecture with SDN/NFV and modularized net entities (Multi Service Fabric)
      - i. Network Virtualization for flexible service
      - ii. Low cost clustering L3 switch for CAPEX reduction
      - iii. SDB based auto multi layering
    - Transport SDN
      - i. L0-L2
    - Optical
    - OTN
    - MPLS TP
      - i. Advantages
    - Main Goal Quick connection
    - Dynamic Traffic optimization
    - Multilayer control
    - Standardization status in ITU-T/ONF
      - i. ITU-T SG15 and ONF (Open Networking Foundation)
    - Use Case
      - i. #1 BW on Demand for DC
      - ii. #2 Multi-layer traffic Optimization
        - Orchestrator – Global network view
        - SDN Controller for Transport
      - iii. #3 Multi-layer recovery
        - Router configuration migration (Shared backup node/ports)
        - Path Reconfiguration
    - High Level Requirement
      - i. High Scalable
      - ii. High Security
      - iii. High Reliability
  - **ASTAP-26-INP-30\_Direction\_of\_EG\_FN\_NGN**
    - 
    - i. Discussion on Workplan/TMP/Output Document
  - **ASTAP-26-TMP-37Rev.1\_Workplan\_EG-FNNGNr2 (ASTAP-26/TMP-37Rev.1)**

- a. EG SACS
  - i. Adoption of Agenda
  - ii. Review of Progress Report/Presentation/Discussion of Input/Information Document (INP/INF)
  - iii. Discussion on ToR/Workplan/APT Strategy Matrix and Future Activities
  - iv. Meeting Outcome & Deliverable
  - v. Draft Agenda (ASTAP-26/ADM13)
  - vi. Presentation/Meeting Update/Input/Information Document
    - Progress report (ASTAP-26/INP-06)
    - Report of ITU-T SG15 G.Suppl. RoF (ASTAP-26/INF-02)
      - ITU-T G Suppl.55 – Final Document of RoF (Approved in ITU-T SG 15 Plenary Meeting)
      - New G.RoF, Optical Access Network based on Radio-over-fibre (RoF)
      - Classified into two groups, Digital & Analog RoF
  - vii. Consideration/Output
- **ASTAP-26-INP-17\_WDM\_PON\_with\_RoF\_TM\_EG-SACS\_rev1**
  - PTP complimentary to network architecture for FTTx
  - GPON (OLT) → WDM → RoF RU → Multiple MW Terminal → Multiple Home Network
  - 28MHz BW with 128QAM → 30Mbps per users
- **ASTAP-26-INP-16\_RoF\_relay\_indoor\_network\_Hitachi\_NICT\_EG-SACS**
  - In-Building RoF relay link for WLAN
  - BW 60GHz +- 1GHz
  - Gain 7-8db
- **ASTAP-26-INP-10\_mmw\_RoF\_Fronthaul\_Backhaul\_NICT\_TMRD\_EG-SACS**
  - RoF for radio signal delivery over optical Fibre network, Radio over Radio over fibre (RoRoF).
  - Millimetre-Wave (mmw) RoF for radio signal for future Mobile backhaul/fronthaul communication technology so-called 5G
  - User will achieve 10Gbps
  - Capable for Multi signal delivery ,FTTH, WiFi, LTE, LTE-A
  - Split into two document Technical and guideline.
- **ASTAP-26-INP-18\_Revision\_APT-ASTAP-REP-03Rev.3\_Hitachi\_NICT\_EG-SACS (ASTAP-26/INP-12)**
  - Millimetre-Wave (mmw) RoF systems
  - Application of
    - i. Mobile Service: Microwave/Millimeter-wave dual band RoF System
    - ii. Fixed Service: 120GHz band High Speed wireless system based on mmw RoF system
    - iii. Radiolocation Service: Foreign object debris detection system
  - Introduction RF Distribution network using WDM technologies
- **ASTAP-26-INP-13\_Draft\_Train\_NICT\_EG-SACS**
  - Tx capacity > 1Gbps in movement
  - Direction centre of trains can be locate train Location and traffic information for prediction-based signal distribution
  - Convergent of mmw and RoF
- **ASTAP-26-INP-09\_Document\_CMUTHAI\_Draft**
  - Market situation in Thailand Fixed and Mobile
  - Technology Evolution in Thailand for Mobile and Fixed Broadband.
- **ASTAP-26-INP-12\_Draft\_Recommendation\_NICT\_Hitachi\_TMRD\_EG-SACS**
  - Joint Contribution NICT & TM



- Scope :
    - i. Provides guidance on implementation of RoF technologies in the wired and wireless seamless access communication systems.
    - ii. The resilient access network, mobile fronthaul/backhaul, RoF relay Networks and WDM PON Integrated with RoF.
  - Provide Recommendation Architecture for
    - i. Resilient access networks
    - ii. Mobile Fronthaul/Backhaul
    - iii. RoF relay links for indoor networks
    - iv. Integration of RoF with WDM-PON
    - v. Other applications of seamless access systems
      - Remote antenna system for broadcasting
      - Electronic news gathering for broadcasting
      - Foreign object debris detection system
    - vi. Discussion on Workplan/TMP/Output Document
      - Timeline for all Documents
      - ASTAP-26-TMP-XX\_Overview\_Access\_Networks
      - Workplan ASTAP-25/TMP-22
      - ToR ASTAP-25/OUT-09
      - APT Strategy ASTAP-26/INF-18
      - Next EG Meeting ASTAP-26/INP-06
- 3.3.2 WG SA
- i. Adoption of Agenda
  - ii. Review of Progress Report/Presentation/Discussion of Input/Information Document (INP/INF)
  - iii. Discussion on ToR/Workplan/APT Strategy Matrix and Future Activities
  - iv. Meeting Outcome & Deliverable
- a. EG M2M
    - v. Agenda (ASTAP-26/ADM-12 Rev.1)
    - vi. Presentation/Meeting Update/Input/Information Document
  - **WG-M2M (ASTAP-26/INP-36)**
    - ToR Objective – Approved during ASTAP-25 (ASTAP-25/TMP-42)
    - Objective
      - i. exchange the regional interests in Machine-to-Machine (M2M) applications and/or services such as “smart grid,” and “e-Health” amongst APT member countries.
      - ii. study standardization activities in regards to M2M applications and/or services such as smart grid and e-Health in other standardization bodies.
      - iii. study situations on the efficient use of ICT (Information and Communication Technologies) on M2M applications and/or services such as smart grid and e-Health amongst APT member countries.
      - iv. identify use cases of the M2M applications and/or services such as smart grid and e-Health that can be used to derive requirements to ICT/ telecommunication network in each country in the region.
    - Discussion items at the ASTAP-26 meeting are follows, but not limited to,
      - i. e-Health situation in some countries
      - ii. e-Health standardization status in ITU-T and other SDOs
      - iii. Draft report on e-Health in APT region
      - iv. Smart City, including Smart Grid, situation in APT countries
      - v. Smart City, including Smart Grid, standardization status in ITU-T and other SDOs
      - vi. M2M service/applications, such as Intelligent Transport System (ITS)
      - vii. Future work plan
  - **Liaison Statement from ITU-T SG 16 (ASTAP-26/INP-05)**

- ITU-T Q28/16 “Multimedia framework for e-health applications” (Approved: IPTV-GSI, Geneva, 19 June, 2015)
- **ASTAP-26-INP-24\_EG-M2M-eHealth\_150909**
  - This contribution proposes to input contents of several use cases in APT countries introduced in website. The following use cases are proposed to include into clause 4 of this report.
    - i. Clause 4.3: Health Data and Government Multi Purpose Card (GMPC) in Malaysia
    - ii. Clause 4.4: eHealth activities in Philippine – Telehealth and eMedicine by NTHC
    - iii. Clause 4.5: National Electronic Health Record (NEHR) in Singapore
- **ASTAP-26-INF-11\_SG13-progress\_report\_to\_ASTAP**
  - SG Future networks including cloud computing, mobile and next-generation networks
- **ASTAP-26-INF-10\_ITU-T\_NEW\_STUDY\_GROUP**
  - New Study Group SG 20: Internet of Things and its applications including smart cities and communities
  - TSAG Meeting agreed:
    - i. The parent group of JCA-IoT would be transferred to the new SG20 from TSAG so as to benefit from technical guidance.
    - ii. The IoT-GSI would be discontinued in due course (but not before the July 2015 meeting), since most of its current standardization activities would be carried out by the new SG20.
  - ITU-T SG 20 Structure
    - i. Q1/20: Research and emerging technologies including terms and definitions
    - ii. Working Party 1: IoT
      - Q2/20: Requirements and use cases for IoT
      - Q3/20: IoT Functional architecture incl. signalling requirements and protocols
      - Q4/20: IoT applications and services incl. end user networks and interworking.
    - iii. Working Party 2: Smart Cities
      - Q5/20: SC&C requirements, applications and services
      - Q6/20: SC&C Infrastructure and framework
    - iv. Discussion on Workplan/TMP/Output Document
- **ASTAP-26-INP-39\_Work\_Plan\_EG-M2M150904**
  - b. EG MA (ASTAP-26/ADM-17), (ASTAP-26/ADM-17Rev.1)
    - i. Adoption of Agenda
    - ii. Review of Progress Report/Presentation/Discussion of Input/Information Document (INP/INF)
    - iii. Discussion on ToR/Workplan/APT Strategy Matrix and Future Activities
    - iv. Meeting Outcome & Deliverable
    - v. Agenda
    - vi. Presentation/Meeting Update/Input/Information Document
      - ASTAP-26-INP-22\_EGMA\_signage
      - ASTAP-26-INP-46Rev.1\_Report\_The\_3rd\_CI\_event\_R1
      - ASTAP-26-INF-17\_Result\_of\_IPTV\_Testing\_and\_Showcasing
        - Latest IPTV Standard
      - ASTAP-26-INF-19\_EGMA\_iptv-profile
        - IPTV Terminal Profiles, Develop STB
    - vii. Discussion on Workplan/ToR Document
      - 1. ASTAP-26-TMP-03\_EGMA-Work-plan
        - a. There are 3 objective for EG MA:
          - i. To review and study the existing and new domains for multimedia
          - ii. To bridge a gap among APT region
          - iii. Contribute to develop regional and global standards that reflect to Asia Pacific Regional requirements.
        - b. Output/Deliverable

- i. Manage to develop technical report, guideline and recommendation of ASTAP standards.
    - ii. Collaboration and develop liaison statements and contribution with several standardization organizations (ITU, W3C, IETF, ISO/IEC JTC1, OASIS).
    - iii. Joint meeting with others Working and Expert Groups.
    - iv. Discussion on TMP/Output Document
  - 2. ASTAP-26-TMP-04\_EGMA\_Liaison IPTV
  - 3. ASTAP-26-TMP-05\_EGMA-matrix-on-strategic-plan
    - a. Follow up APT Strategy plan 2015-2017
      - i. Work Item 1: Policy & regulation
  - 4. Promote affordable national broadband access, Participating in showcasing for IPTV, IPTV Showcase in 3<sup>rd</sup> APT C&I
    - i. Work Item 2: ICT Development
    - ii. Work Item 3: Disaster Management
    - iii. Work Item 4: Cyber Security
    - iv. Work Item 5: Radicommunication
    - v. Work Item 6: Standardization
    - vi. Work Item 7: Capacity Building
    - vii. Work Item 8: Regional Cooperation for ICT Development
- 5. ASTAP-26-TMP-06\_EGMA-Meeting-report
  - a. EG MA update the Work plan

### 3.4 Session 11-13: Work Groups (WG) Breakout - Summary

#### 3.4.1 WG NS

- a. FN&NGN
  - i. Meeting Agenda
    -
  - ii. Meeting Report
    - Collaboration
      - o ITUT SG-13
      - o ITU-D
  - iii. Output Document
    - INF-04
    - INF-05
    - INP-30
    - APT Strategy Plan 2015-2017
      - o Report for Future Transport Network. 2017
      - o Finalised Recommendation at 2017
    - Review ToR :
    - Future Work
    - Work Plan
      - o Future Transport Network Technologies
        - ASTAP 27 Collecting Info
        - ASTAP 28 Draft
        - ASTAP 29 Final Draft Report
    - Liaison Statement
      - o Liaison Statement to ITU-D on NGN activities
- b. SACS
  - i. Meeting Agenda
    -
  - ii. Meeting Report
    - Meeting\_Report\_SACS-EG (ASTAP-26-TMP-35)

- The meeting requests WG plenary to consider five documents and send them to ASTAP plenary for approval. The four documents are carried forward to the next meeting for further study.
  - The meeting agreed to continue the work on seamless access communication systems, applications and services based on RoF technologies.
- iii. Output Document
- Consideration for approval
    - Revised work plan of Expert Group on Seamless Access Communication Systems (ASTAP-26/TMP-13)
    - Draft revision of APT Report on characteristics and requirements of optical and electrical components for millimeter-wave Radio over fiber systems (ASTAP-26/TMP-14)
    - Draft new APT Report on integration of Radio over Fiber with WDM PON for seamless access communication system) (ASTAP-26/TMP-15)
    - Draft new APT Report on RoF relay link for indoor communication systems (ASTAP-26/TMP-16)
    - Draft liaison statement to ITU-T SG15 (ASTAP-26/TMP-20)
  - Carried Forward Documents
    - Train communication network using Radio over Fiber technology (ASTAP-26/TMP-13)
    - Working document of a draft new APT Report on fronthaul/backhaul using millimeter-wave Radio over Fiber technologies (ASTAP-26/TMP-17)
    - Working document of a draft new APT Recommendation on seamless access communication systems (ASTAP-26/TMP-18)
    - Working document of a draft new APT Report on overview of access network in APT member countries (ASTAP-26/TMP-19)

### 3.4.2 WG SA

- a. MA
- i. Meeting Agenda
  - ii. Meeting Report
    - ASTAP-26-TMP-06Rev.1\_EGMA-Meeting-report
  - iii. Output Document
    - Liaison Statement: ASTAP-26-TMP-04Rev.1\_WGSA-LS-out-ITU-T-SG16
      - ITU-T Q13 SG 16 about 3<sup>rd</sup> C&I showcase
        - Event completed on 7-8th Sep 2015
        - 114 Participants registered
        - Testing based on
    - APT Strategy Plan 2015 – 2017: ASTAP-26-TMP-05Rev.1\_EGMA-matrix-on-strategic-plan
      - Introducing global testbed for IPTV and IPv6 based on ITU-T IPTV Standards
      - Conducting IPTV Survey Report
      - Participating in showcasing and exhibition the broadband killer application
- b. M2M
- i. Meeting Agenda
    - Meeting Report of EG M2M: ASTAP-26-ADM-12Rev.1\_Draft\_Agenda\_EG-M2M – Approved
  - ii. Meeting Report
    - ASTAP-26-TMP-29\_EG-M2M\_Report\_150911\_0
  - iii. Output Document

- Term of Reference (ToR): ASTAP-26-TMP-26\_ToR\_of\_EG\_M2M\_1503911
  - o
- Work Plan: ASTAP-26-TMP-27\_Workplan\_EG\_M2M\_150911
  - o APT Report of Smart Grid in APT Region, Approved at the 25th ASTAP (March 2015)
  - o APRT Report of e-Health in APT Region, Expected Approval time is 2016
  - o Smart City, Expected Approval time is 2017
  - o Other M2M Applications/Services, TBD
- The APT report of e-Health in APT Region: ASTAP-26-TMP-28\_EG-M2M eHealth\_150911
  - o

### 3.5 Session 14: Spare Time Slot

### 3.6 Session 15 - 16: Plenary & Closing (ASTAP-26/ADM26)

#### 3.6.1 Report From Working Group/Advisory Board

- a. Work Group (WGs) Report: WG NS (ASTAP-26/OUT-25) - Approved
  - i. Report Summary
    - EG FN&NGN
    - EG SACS
    - EG DRMRS
  - ii. Output Document
    - ASTAP-26/OUT-09 : LS DRMRS MDRU- Approved
    - ASTAP-26/OUT-10 : APT Report Cost Effective Mobile - Approved
    - ASTAP-26/OUT-11 : APT Report DISS - Approved
    - ASTAP-26/OUT-12 : Rev. APT ASTAP REP.- Approved
    - ASTAP-26/OUT-13 : RoF WDM-PON - Approved
    - ASTAP-26/OUT-14 : RoF Relay Indoor - Approved
    - ASTAP-26/OUT-15 : LS SG15 - Approved
    - ASTAP-26/OUT-16 : Work Plan - Approved
    - ASTAP-26/OUT-17 : LS ITU-D - Approved
    - ASTAP-26/OUT-19 : Rev ToR – Approved
- b. Work Group (WGs) Report: WG SA (ASTAP-26/OUT-08) - Approved
  - i. Report Summary
    - 5 EGs: M2M, IS, SNLP,MA, AU
    - EG IS
    - EG MA
    - EG M2M
    - EG SNLP
    - EG AU
  - ii. Output Document
    - ASTAP-26/OUT-05 : LS ITU-T SG16 – Approved
    - ASTAP-26/OUT-06 : LS SNLP – Approved
    - ASTAP-26/OUT-07 : Work Plan - Approved
- c. Advisory Report: (ASTAP-26/OUT-02) - Approved
  - i. Discussion & Suggestion
    - Restructure of ASTAP
    - Improving Activities of ASTAP WGs and EGs
    - Structure of ASTAP Advisory Board : Membership
    -
- d. Secretary General Report: (ASTAP-26/OUT-03): ToR ASTAP Advisory Board - Approved
  -

- 3.6.2 Report of the Ad Hoc Plenary on the preparation for next Industry Workshop: (ASTAP-26/OUT-01) - Approved
  - e. Ad-hoc meeting agreed the following topics for the next Industry Workshop in ASTAP-27
    - i. “Resilient ICT system for Disaster Management” by Japan & Philippines
    - ii. “IoT and Smart Cities” by Korea, Republic of.
- 3.6.3 Confirmation on Office Bearers of ASTAP (ASTAP-26/OUT-04)
- 3.6.4 APT Strategic Plan Activities
- 3.6.5 ASTAP-27 Meeting:
  - f. Time: 7<sup>th</sup> – 12<sup>th</sup> March 2016
  - g. Venue: TBC (Most Probably in Bangkok, Thailand) – Please check ASTAP Website.
- 3.6.6 Any other business
  - h. Report of C&I Event 2015 (ASTAP-26/OUT-18)
    - i. Jointly organized by APT & ITU
      - 114 participants
    - ii. Successfully completed on 7<sup>th</sup> – 8<sup>th</sup> Sep 2015
      - Workshop
      - Testing
      - Training
      - Showcasing
- 3.6.7 Closing
  - i. Meeting adjourned at 12<sup>th</sup> Sep 2015, 04:15PM

## 4. Meeting Summary

From the series of presentation, meetings, discussions, showcasing, breakout sessions and etc. in summary a few findings have been identified as followings:

### 4.1 Overall

In general, from the forum we found that the developed country especially Japan, Korea and China still dominant on the activity and product showcase compare to the other countries. Hence, to reduce the gap following action should be considering:

- To conduct regularly local discussion on ICT standards requirement between Regulatory (MCMC), Standards Organization (MTSFB, SIRIM and etc.), Service Providers, Solution Partners, Universities (Researchers/Academia’s), ICT industry players and etc.
- Aside from ASTAP and ITU, potential participating or attending meeting with others standards organizations such as IEEE, IETF, 3GPP, ETSI, ISO, W3C and etc.
- Continuous support to participate in ASTAP meeting in order to keep update and momentum in providing, presenting, discussing and updating the standards which also to accommodate with Malaysia markets, requirement and environments.

### 4.2 Internet Related

The findings of the Internet related can be summarized as followings:

- The demands on internet traffics keep increasing and expecting more IP packet for the following services and requirement;

- M2M services such as Home Network Services including Energy Management Services (HEMS), Home Area Network (HAN), Energy Management System (EMS), Advanced Metering Infrastructure (AMI) and etc.
- Future packet voice & messaging such as Rich Communication Suites/Services (RCS), Voice over LTE (VoLTE), Voice over WiFi (VoWiFi) and etc.
- Introducing of new rural and remote services and applications such as e-Health, voice translations and etc.
- Demands on Big Data requirement, data sharing, hosted and etc.
- Demands on IPTV and Internet TV, Internet Radio and etc.
- Online transaction such as online banking, trading's and etc.
- Introducing IPv6 for IPTV based on IYU-T Sandards
- Introducing Broadband killer application.

### 4.3 Infrastructure & Network

The findings of the Infrastructure and Networks can be summarizing as followings:

- The demand on Packet Transport Network based on MPLS-TP (Transport Profile) by Service Providers/Telecom Carrier Network for migration from legacy transport network (SDH or OTN) without compromise on OAM & NMS functionality.
  - Tremendously increasing on IP traffics and services
  - Efficiently to accommodate IP traffics and services
  - Flexibility in introducing emerging new technology such as SDN/NFV and low cost L3 clustering
  - Separation of data and control plane, OAM (ITU-T G8113.1 & G8113.2), centralized NMS and high-speed protection mechanism. (MPLS-TP linear protection switching: IETF RFC 7271, ITU-T G.8131.1 & G.8131.2)
  - Multilayer converged transport network driven by SDN for future cost effective network
- A new study on "Big Data" and Future Network.
- NGN interoperability service testing.
- Proposed to continue testing and showcasing in 4<sup>th</sup> APT C&I events for the following topics;
  - IMS/NGN interworking
  - Future Transport Network
  - FTTH (GPON and GEAPON)
  - NGN E2E service
  - SDN/NFV

### 4.4 Recommendation

MCMC & MTSFB, in collaboration with Service Providers/Telco's are requires considering the following agendas:

- To create awareness of Future Network/Next Generation Network such as Service Defined Network/Network Function Virtualization (SDN/NFV), IMS, Big Data, Future Packet Transport Network packet based telephony, IPTV, M2M and etc.
- Enhancement the level of expertise on standardization among the members on Service Defined Network/Network Function Virtualization (SDN/NFV), IMS, Big Data, and Future Packet Transport Network packet based telephony, IPTV, M2M and etc.
- Information sharing, to develop guideline for the implementation Service Defined Network/Network Function Virtualization (SDN/NFV), IMS, Big Data, Future Packet Transport Network, packet based telephony, IPTV, M2M and etc.

- Forum share and identified and issues of Service Defined Network/Network Function Virtualization (SDN/NFV), IMS, Big Data, Future Packet Transport Network, packet based telephony, IPTV, M2M and etc.
- Collaboration and study on interoperability between ITU-T, 3GPP, IEEE standards such as NGN (ITU-T) and IMS (3GPP) standards, Testing on IMS to IMS interconnection among operators in Malaysia and etc.
- To enforce all related parties to follow the standards and guideline on IPv6 deployment, security requirement and policy.

## 5. Conclusions

Through MCMC and MTSFB, in collaboration with Service Providers in Malaysia, is require to actively participate and provide contribution on meeting documents (Input and Information) for Malaysia's market and environment in the next ASTAP meeting. The topic should be focus on Future Network/Next Generation Network (FN/NGN) on Service Define Network/Network Function Virtualization (SDN/NFV), Machine to Machine (M2M) and Internet of Things (IoT). The topic is crucial since, it is stills at initial stage of the deployment and all the standards should be defined to suite with our market, services, policies, regulations and standards

Internet Services, the security and IPv6 requirements are still at the top priority, to safeguard our internet services covers all fixed and mobile platform, converged platform, IPTV, Machine to Machine and the adoption of Internet of Things (IoT) and smart city era.

All standards must be reflecting and beneficial to Malaysia as a country, Service Providers and End Users.

## 6. Acknowledgements

ASTAP





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