



**SUMMARY REPORT
ON
ITU, C&I and ASTAP-24**

**24 - 30 August 2014
Bangkok/Thailand**

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**On Behalf
MALAYSIAN TECHNICAL STANDARDS
FORUM BHD**

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1. Abstract

The **24th APT Standardization Program Forum (ASTAP-24)** was held from 27 to 29 August 2014 in Bangkok, Thailand

The objective of the **ASTAP-24** 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.

In conjunction with the 24th APT Standardization Program Forum (ASTAP-24), the following events were held at the same venue:

The Conformance and Interoperability Event (C&I) :

The C&I was held from 25th to 26th August 2014. The C&I event was participated by registered companies or organization for testing, such as OKI, Hitachi, Mitsubishi, NICT and etc. This events includes showcasing and workshop as followings;

1. IPTV Showcase
2. Speech Translation App. Showcase
3. Home Gateway Showcase
4. E-Health Showcase
5. 10G E-PON Showcase
6. Digital CCTV for Smart Home Showcase

The ITU Regional Standardization Forum for the Asia and Pacific Region (ITU):

The ITU meeting was held on 25th August 2014 in collaboration with the APT.

Report Objective

This report is summary from the forum that covers from all inputs such as presentations, workshops, events, discussion and etc. 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 MTFBSB and MCMC actively contribute and propose draft for any technical standards for Malaysia in the next ASTAP, ITU, IETF and 3GPP meeting.

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:

Forum & Event

1. ITU Regional Standardization Forum for Asia Pacific Region – 25th August 2014
2. Conformance & Interoperability Event (C&I-14) – 25th – 26th August 2014
3. 24th APT Standardization Program Forum (ASTAP-24) – 27th – 29th August 2014

List of Participants (MTFSB)

1. En Hamzah Buruk: MTFBSB
2. Pn Azlina Dato Ghazali: MTFBSB
3. Zaharin Mohd Nadzri: IPv6 WG Vice Chairman/Celcom
4. Gopinathan Rao: IPv6 & IoT WG Chairman/Mimos
5. Dr. Wahidah Hashim: WT WG Chairman/Mimos
6. Azrin Aris: IPTV WG Vice Chairman/TM
7. Irving Ho Wee Beng: INF-R/DiGi
8. Adeline Chee Mei Lan: WG WT Leader/MDEC
9. Alex Kuik Teck Seng: WG Thread Leader/MDEC
10. Matthew Rajendra: WG Drafting Lead/ECO² Green Data Centers

3. Introduction /Background

The **24th APT Standardization Program Forum (ASTAP-24)** is platform for ICT players such as service providers, manufacturers of communications equipment, researchers, academias 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, Working Groups (WGs), Joint Coordination Groups (JCGs), Expert Groups, Advisory Board and other related groups.

- 3.1. ASTAP methodology is based on meeting documents contribute by APT members as followings;
 - a. ASTAP Recommendations and report
 - b. ASTAP Working Methods (approved by MC-35)
 - i. Annex 1 - Terms of Reference (ToR) of ASTAP Advisory Board
 - ii. Annex 2 - Revised Approval Procedures for ASTAP Output Documents
 - c. ASTAP Strategic Plan (2012 – 2014; 2014 - 2016)
 - d. Template for proposal of New Study Question
- 3.2. ASTAP-24 Meeting Documents were labels as followings;
 - a. ASTAP-24 : Admistrarive Document (ADM)
 - b. ASTAP-24 : Input Documents (INP)
 - c. ASTAP-24 : Information Documents (INF)
 - d. ASTAP-24 : Output Documents (OUT)
 - e. ASTAP-24 : Temporary Document (TMP)
- 3.3. ASTAP-24 Meeting Agenda (Breakout Session)
 - a. Opening Meeting
 - b. Agenda Approval
 - c. Presentation/Discussion/Review on the Meeting Documents
 - d. Update of the Work Plan, ToR
 - e. Review of the Meeting results

4. Agendas/Topics

The agenda/topic from **24th APT Standardization Program Forum (ASTAP-24)** as followings;

4.1 ITU Regional Standardization Forum for Asia Pacific Region (ITU): 25th Aug. 2014

In the ITU meeting, the topics were presented as the followings:

- Bridging the Standardization Gap (BSG) between developing and developed countries.
- Content Delivery Network (CDN)
- Media Suite Virtualization (MSV)
- Converged of Web world to IPTV World
- Video Streaming dominant by HTTP
- Etc.

4.2 Conformance & Interoperability Event (C&I-14): 25th Aug. 2014

4.2.1 IPTV H.264 & H.265 Codec Showcase: OKI

4.2.2 IP Video Phone for Smart Device on NGN: OKI

- Specification
 - Protocols: RFC3261 (SIP)
 - Media Codec: Audio: G711/G.722; Video: H.264 (SD/HD, MPEG-4)
 - OS: Android 4.x

4.2.3 Speech Translation App; VoiceTra4U; U-STAR: NICT

- Speech Input
- Text Input
- Audio Output

4.2.4 IPTV/OTT Service Platform; OKI Media Server: OKI

- High Quality Video Content Distribution
- Integrated IPTV & OTT Platform: Multi Service: VOD, IP broadcasting, Live and convergence; Multi Screen: PC, STB, TV, Smart Phone, Table and etc.
- Standard based: ITU-T, MPEG, IETF & etc.

4.2.5 Digital CCTV System Showcase: Mitsubishi

- Specification Recorder;
 - Media Codec: Audio: G711 (u-law); Video: H.264

4.2.6 Home Gateway and Wireless for Smart House: Mitsubishi Electric

4.2.7 10G-EPON Commercial System NG Broadband: Mitsubishi Electric

- 10x Faster than GE-PON
- Multi-Channel HDTV

4.2.8 IPTV Set-up Box (STB) for High Definition (HD) IPTV service: Mitsubishi Electric

- Specification
 - H.721, H.762, H.770
 - Full HD: H.264, MPEG-2

4.3 APT Standardization Program Forum (ASTAP-24): 27th – 29th Aug. 2014

ASTAP-24 meeting was started with update on ASTAP structure, presentation and follow with breakout session based on respective Working Group (WG), Joint Committee Group (JCG) and Expert Group (EG).

4.3.1 Session 1: Opening and Plenary

4.3.2 Session 2: Plenary

4.3.3 Session 3 – 10: Breakout Session

Breakout Session Schedule

Date	27-Aug		28-Aug				29-Aug	
	14:00 - 15:20 (Session 3)	15:40 - 17:00 (Session 4)	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)
Queen's Park 1 (2nd Floor)	WG OWM (1) (ALL)	WG OWM (2)	WG ITU-T (1)	WG PRS	WG M2M (1)	WG OWM (3)	WG M2M (2) (ZAHARI N)	WG ITU-T (2) (ZAHARIN)
Queen's Park 6 (2nd Floor)		WG BSG	WG GICT&EM F (1)	JCG I&N EG FN&NGN (1) (ZAHARI N)	JCG I&N EG FN&NGN (2) (ZAHARI N)		WG GICT&EM F (2)	WG OWM (4)
Panorama I (3rd Floor, for 27 August) Queen's Park 4 (2nd Floor for 28-29 August)		Joint C&I Discussion	JCG ITAU EG IS (1) (ZAHARI N)	JCG ITAU EG SNLP (1)	JCG ITAU EG AU	JCG ITAU EG NGW (ZAHARI N)	JCG ITAU EG SNLP (2)	JCG ITAU EG IS (2) (CANCELLED)
Panorama II (3rd Floor, for 27 August)		JSG SSO EG SACS (1) (ZAHARI N)	JCG SSO EG SACS (2)	JCG SSO EG DRMRS (1)	JCG SSO EG SACS (3)	JCG SSO EG DRMRS (2)	JCG SSO EG SACS (4)	

Queen's Park 5 (2nd Floor for 28-29 August)								
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Breakout Session Agenda/Topic

Below is the summary of agenda/topic during the breakout session.

a. Seamless Access Communication System (SACS)

In summary the topic has been presented/discussed under this so-called Expert Group (EG SACS) as followings:

Input/Information Documents:

- Input:
 - ASTAP-24/INP-10: RoF Relay Link for Indoor Communication System
 - ASTAP-24/INP-12: Proposal of new Section “System Architecture” to be included in the Working Document of a Draft New APT Report on Integration of Radio over Fiber with WDM PON Seamless Access Communication System.
 - ASTAP-24/INP-20: Front-haul/Back-haul using millimetre-wave Radio over Fiber Technologies
 - ASTAP-24/INP-25: Progress Report of SACS
- Information
 - ASTAP-24/INF-04: Report of ITU-T SG15 G.suppl. RoF
 - ASTAP-24/INF-28: Proposal of new Section “System Architecture” to be included in the Working Document of a Draft New APT Report on Integration of Radio over Fiber with WDM PON Seamless Access Communication System.

Meeting Contents

- Draft Supplementary Standard for Radio over Fiber (RoF) by TM (Malaysia) and NICT (Japan)
- Explanation on Mobile Front Haul (MFH) & Mobile Back Haul (MBH).
- Technical testing, architecture and network elements involved;
 - Relationship between RoF and WDM PON in the same fibre cable
 - Separated wavelength for RoF and WDM (λ x RoF & PON)
 - Core Switches (CS)
 - Remote Antenna Unit (RAU)
 - CPE

Output Documents:

- Temporary:
 - ASTAP-24/TMP-03, 04, 05, 07 & 08: Working Document of a draft new APT report.
- Output:

- ASTAP-24/OUT-10: Meeting Report of EG IS

b. Internet Security (IS)

In summary the topic has been presented/discussed under this so-called Expert Group (EG IS) as followings:

Input/Information Documents:

- Input:
 - ASTAP-24/INP-16: Method for Construction and Management of Wireless LAN
 - ASTAP-24/INP-23: Draft Security Handbook
 - ASTAP-24/INP-24: Proposal for the 6th Industry Workshop (Cyber security)
 - ASTAP-24/INP-32: Special Attention Required for Secure Bank Electronic Transaction
 - ASTAP-24/INP-34: Progress Report of EG IS
- Information
 - ASTAP-24/INF-09: A Way To Use White box Cryptography in Separated Domain Environment of Mobile Devices
 - ASTAP-24/INF-10: Trend of Security Threats on An Android Device – Reverse Engineering and App Repacking.
 - ASTAP-24/INF-11: System Requirements and Method for Smart Network Services in Wireless Environment
 - ASTAP-24/INF-12: Requirements of Secure One-Time Password Generation in Mobile Devices
 - ASTAP-24/INF-13: Requirements of SMS Security Module

Meeting Contents

- Security Handbook Discussion (ASTAP-24/INP16, 23 and 32)
- 6th industry WS proposal (ASTAP-24/INP-24)
- Bali Action Plan
- Further Action EG IS
 - Security on Smartphone
 - Online Transaction
 - Protecting
 - Special attention for online banking transaction
 - Scope: end users, protecting users.
 - Method of secured password
 - Checkpoint security weakness of PC/Notebook
 - Special attention on public WLAN
 - Scope: end user WLAN
- ToR work plan
 - Progress Report of EG IS
 - 12 months work program
 - Working method
- Review Meeting Results

In the meeting MTSFB has proposed, narrow down the Security Handbook to a specific topic such as Security Handbook for End User. Security Handbook is wide topic to be completed in a year.

Output Documents:

- Temporary:
 - None
- Output:
 - ASTAP-24/OUT-07: Meeting Report of EG IS

c. Future Network & Next Generation Network (FN&NGN)

In summary the topic has been presented/discussed under this so-called Expert Group (EG FN&NGN) as followings:

Input/Information Documents:

- Input:
 - None
- Information
 - ASTAP-24/INF-05: Standardization Collaboration on Future Network
 - ASTAP-24/INF-06: Big Data and Future Network
 - ASTAP-24/INF-20: Status of MPLS-TP Linear Protection Standardization
 - ASTAP-24/INF-26: Packet Transport Networks: Overview and Future Direction
 - ASTAP-24/INF-32: Report of NGN E2E Service Testing & Showcasing in 2nd APT/ITU C&I

Meeting Contents

- MPLS/MPLS-TP/PTN
 - MPLS vs MPLS-TP
 - Existing MPLS function does not satisfy transport network
 - MPLS TP: Existing MPLS function available in MPLS-TP
 - MPLS-TP: Enable the paths in the data plane to be control
 - MIP/MEP: Maintenance Intermediate/End Point
 - Structure of MPLS-TP G.81XX.1 & G81xx.2 (ITU-T Approved G.8131)
 - Section 2 MPLS-TP: linear protection Switching standardization (IETF RFC & ITU-T –Approved by IETF RFC 7271 & ITU-T SG15)
- BIG Data
 - ITU-T SG13
 - Data (Character) → Information (Combination of Character) → Knowledge (Meaning of Info.)
 - BIG DATA: Collected sets of Data
 - Data: Communication
 - Information: ICT (Context)
 - Knowledge: Meaning of the Information

- Wisdom: Insight of the Information
- Generated → Stored → Analysed → Transform Info.)
- Data Produce → Data Service Provider → Data Service User
- Data Produce: Public Data, Private Data, Social Data, Sensing Data
- Data Service Provider: Data Infra Providers-Telecommunication Service Provider
- Related FN Feature

- SDN
 - Centralized Network Control
 - Decoupling of underlying network infra.
 - Open interface for multi vendor infrastructure. Open Flow.
 - Evolution in Layer Architecture
 - Control Plan → L3 SDN & SD TN

- Collaboration
 - ITU-T SG11: Develop Signalling requirement and protocols based on outcomes of SG13
 - ITU-T SG 13: Information supports on Future Network & Next Generation Network (FN&NGN) & Development of Guidelines for NGN implementation.
 - IoT, M2M
 - Cloud Computing
 - IPTV, Smart TV
 - E-Health, etc.
 - ITU-T SG 15: Information on MPLS related Standardization
 - SDN is the hot and common collaboration issue which requires early collaboration between SG11 and SG13
 - Collaboration on IMS
 - Bridging GAP between the region
 - Collaboration – 2 Ways

- NGN/IMS
 - Report of NGN/IMS end to End Service Interoperability Testing
 - Based on ITU-T Q.3401 NGN/IMS-UNI
 - SIP Terminal to NGN/IMS via Gateway
 - Test Result Report of NGN E2E Service Testing & Showcasing in 2nd APT/ITU C&I
 - VoIP E2E Testing
 - Multimedia e2E Testing
 - Basic NGN Services was Success
 - Interoperability identify both
 - To ensure Interoperability ITU-T NGN and 3GPP IMS network,

Output Documents:

- Temporary:
 - None

- Output:
 - ASTAP-24/OUT-15: Meeting Report of EG FN&NGN
 - ASTAP-24/OUT-16: Draft APT Report on Packet Transport Networks

d. Next Generation Website (NGW)

In summary the topic has been presented/discussed under this so-called Expert Group (EG NGW) as followings:

Input/Information Documents:

- Input:
 - ASTAP-24/INP-36: The Draft of the Next IPTV Basic Terminal Standards and Test Specification for C&I and ASTAP
 - ASTAP-24/INP-47: Progress Report of EG NGW
- Information
 - ASTAP-24/INF-02: Introduction to Digital Signage Standard Regarding Disasters
 - ASTAP-24/INF-30: Report of IPTV Testing & Showcasing in 2nd APT/ITU C&I
 - ASTAP-24/INF-31: Proposal of Contribution to Q13/16 in ITU-T Based on the result of the 2nd C&I Event

Meeting Contents

- NGW Proposal to revise draft H.721-V2 (Full text) & ITU-T HSTP.CONF-H721.V3

Output Documents:

- Temporary:
 - None
- Output:
 - ASTAP-24/OUT-03: Liaison Statement on IPTV in 2nd C&I Event to ITU-T Study Group 16
 - ASTAP-24/OUT-04: Liaison Statement on ITU-T H.721 to ITU-T Study Group 16
 - ASTAP-24/OUT-05: Meeting Report of EG NGW

e. Machine to Machine (M2M)

In summary the topic has been presented/discussed under this so-called Expert Group (EG M2M) as followings:

Input/Information Documents:

- Input:
 - ASTAP-24/INP-13: Proposal for an update of the Working Document on a Draft APT Report on Smart Grid in APT Region
 - ASTAP-24/INP-14: Proposal to update the Report on E-health in APT Region
 - ASTAP-24/INP-15: Proposal to update Section 5 of the Report on Smart Grid in APT Region
 - ASTAP-24/INP-18: Proposal to update Section 2 of the Report on Smart Grid in APT Region
 - ASTAP-24/INP-29: Proposal for Editorial Change of the Report of Smart Grid in APT Region.

- ASTAP-24/INP-37: Proposal to Update Section 2, 3 and 5 E-Health Overview in Japan on the Report of E-Health in APT Region.
- Information
 - ASTAP-24/INF-02: Korea Smart Grid Activities

Meeting Contents

- Update Clause 4.1: e-Health in China
- e-Health Standardization in China
- Predict the mobile medical market in China will exceed RMB10Bil.
- Rapid Growth medical devices market RMB420Bil.
- Urgent Requirement e-Health
- Rise on Mobile Health
- ASTAP-24/INP-37 (Update Section 2,3, & 5): E-Health in Japan
- Proposal
 - m-Health – Update on Term & definition
 - Concept and important for e-health - Update on Term & definition
 - e-Health ecosystem
- Clause 5 ITU-T → ITU H.810 Interoperability design Guideline
- Home Network Services HEMS
- Draft report ASTAP-24/Temp: Smart Grid Realized by ICT
- Advanced Metering Infra (AMI)
- Supervisory Control and Data Acquisition (SCADA)
- Energy Management System (EMS)
- Distributed Management System (DMS)
- Wireless Sensor Network (WSN)
- Cloud Computing System (CCS)
- Energy Conservation and Home Care Network (ECHONET) – Home Area Network

Output Documents:

- Temporary:
 - ASTAP-24/TMP-14: Draft APT Report of Smart Grid in APT Region
 - ASTAP-24/TMP-15: Working Document on a Draft APT Report on E-Health in APT Region
- Output:
 - ASTAP-24/OUT-11: Liaison Statement to ITU-T SG13 and SG15
 - ASTAP-24/OUT-17: Meeting Report of WG M2M

f. ITU-T

In summary the topic has been presented/discussed under this so-called Working Group (WG ITU-T) as followings:

Input/Information Documents:

- Input:
 - ASTAP-24/INP-45: Progress Report of WG ITU-T
- Information
 - ASTAP-24/INF-07: ITU-T SG 13 Since ASTAP 23

- ASTAP-24/INF-22: Key Results of the 3rd RevCom Meeting
- ASTAP-24/INF-34: Activities on ITU-T SG15 - The 2nd meeting held on March-April 2014 -
- ASTAP-24/INF-35: Current activities of ITU-T SG11
- ASTAP-24/INF-36 (Rev.1): ITU-T SG16 Presentation

Meeting Contents

- ITU-T SG16
 - Meetings Update on ASTAP 22
 - SG16 meeting JCT-VC/JCT-3V/JCA-AHF/JCA-IPTV/IEEE PHD
 - Q25 Expert meeting
 - IPTV-GSI Meeting
 - Q27 Expert Meeting
 - WP2/16 Meeting
 - Future Networked Car 2014 CITS
 - Joint WP1 Expert Meeting
 - Q6 Expert Meeting JCT-VC/JCT3V
- SG16 Meeting
 - Trends in studies
 - Speech coding
 - Video coding H.265
 - New Multimedia IoT, e-Health, ITS, Digital Signage are gradually rising
 - Q5 (Telepresence) & Q28 (e-Health), Q27 publish 1st tech paper
 - Q16 merged with Q18
- Sapporo Meeting
 - Q6: Picture coding H.265 v2
 - Q3: MM Gateway Control Arch.
 - Q27: Vehicle gateway - approved 1st tech paper
 - 8K Real time HEVC demo.
 - 2nd JRG-AVA meeting
- ITU-T SG 11
 - Q6/11
 - Service & Session control protocols
 - - (CRBT, CRT, IP Centrax)
 - Level 1 NGN TM: Local Testing functional
 - Level 2 NUT Testing Functional, interconnect service end to end, QoS, mobility and roaming
 - Multicast protocol
 - M2M service layer
 - Proposals to ASTAP to introduce new topics;
 - IMS/NGN Interworking
 - Future Transport Network
 - M2M/IoT/e-Health
 - Language Translation
 - FTTH (GPON and GePON)
 - IPTV/Internet TV
 - NGN E2E service
 - SDN/NFV
 - Proposals to ASTAP to introduce the activities of the following pillar;
 - Pillar 1: Conformity Assessment
 - Pillar 2: Interoperability C&I event and action Plan
 - Pillar 3: Capacity Building

- Pillar 4: Testing Centers (Labs/MRAs) of the C&I action plan

Output Documents:

- Temporary:
 - None
- Output:
 - ASTAP-24/OUT-20 – Meeting Report of WG ITU-T

5. Findings

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

5.1. 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 considers:

- 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.

5.2. 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.
 - Etc.

5.3. Infrastructure & Network (I&N) – Future Network/Next Generation Network (NGN)

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), centralised 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 new testing and showcasing in 3rd APT C&I events for the following topics;
 - IMS/NGN interworking
 - Future Transport Network
 - FTTH (GPON and GEAPON)
 - NGN E2E service
 - SDN/NFV

Recommendation

MCMC & MTSFB, collaboration with Service Providers/Telco’s are requires to consider 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.

6. Conclusion

Through MCMC and MTSFB, with 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), IP Multimedia Subsystem (IMS), Packet Voice (VoLTE, VoWiFi, and RCS). 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, Machine to Machine and the adoption of new applications such as Software as a Service (SaaS), Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Desktop as a Service (DaaS), Backend as a Service (BaaS) and Information Technology Management as a Service (ITMaaS).

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



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