



BRIEF REPORT
ON
ASTAP-23 MEETING

3rd – 7th March 2014

Pattaya

Thailand

Prepared by:

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A. Introduction

Asia-Pacific Telecommunity Standardisation Program (ASTAP) is a one of the work area under Asia-Pacific Telecommunity (APT) which is for Asia Pacific Region. The standards discussed and approved at ASTAP would be adopted by member countries. Some of the standards would be submitted for consideration at ITU. ASTAP not only covers the standardisation program but also to make sure of the expert to deal with the study questions that may rise. The objectives of the APT Standardisation Program (ASTAP) are:

- To establish regional cooperation on standardization and to contribute to global standardization activities;
- To harmonize standardization activities in the region through cooperative standardization activities such as exchange of views and information;
- To share knowledge and experience among APT members through studies, research and analysis on telecommunications/ICT areas;
- To assist APT members, especially developing country members, to develop the skills in telecommunications/ICT areas by providing research and analysis-based study results and surveys on key telecommunications/ICT areas;
- To enhance the level of expertise on standardization for telecommunications/ICT areas among APT members;
- To foster appropriate institutional arrangements for promotion of telecommunications/ ICT standardization in the Asia-Pacific region.

ASTAP consists of plenary, Working Groups, Joint Coordination Groups, Expert Groups, Advisory Board and other related groups.

B. Participants

The meeting was attended by the experts of various Internet domains from around the world.

The Malaysian delegate from MTSFB is:

- Gopinath Rao Sinniah, MIMOS Berhad
- Dr. Wahidah Hasim, MIMOS Berhad
- Adeline Chee, MDeC
- Alex Kuik, Digi

C. Industry Workshop – 3rd March 2014

Industry Workshop 1 – M2M IoT and Related Issues

a) M2M IoT and related issues

M2M and IoT are very important topics in the market because its technology could change various verticals such as ITS, energy, e-health, e-commerce, e-education and e-agriculture and others. Many member countries of APT pursue the smart and sustainable life and cities with smart social infrastructure. It is essential element for developing countries as well as for developed countries for sustainable growth of society and economy.

There were seven distinguished presentations to introduce best practice in the market and relevant standard activities in SDOs. These must be informative and interesting to all of the participants of the workshop. Table 1 below shows the list of the presentations which were introduced in the workshop.

Table 1 : List of the presentations

No.	Description	Source
1	e-Health: ICT for Medical and Healthcare Services- NICT, NTT and NEC in Japan	NICT, NTT and NEC
2	The New Ecosystem of Healthcare and Application of m-Health	Continua Health Alliance
3	ITU-T Focus Group on M2M Service Layer	NEC Corporation
4	M2M Related Activities in Japan – Smart Grid and HEMS	Mitsubishi Electric
5	Report of ITS World Congress Tokyo 2013	NTT Corporation
6	Internet of Things in China	P. R. of China
7	OneM2M: Delivering Global Standard for M2M Service Layer Platform	Fujitsu Lab.

b) Presentations

- i. e-Health: ICT for Medical and Healthcare Services- NICT, NTT and NEC in Japan (NICT, NTT and NEC)

This presentation introduces following main topics.

- Discussion on medical and healthcare issues such as increasing the

population of elderly people and medical expenditure. It also discusses the crisis of Japan's health insurance system. Establishment of integrated community care system is considered as a possible solution for these issues.

- Three practices of e-Health and m-Health services are introduced, Mobile Health System from NTT, BAN in PHC package (Portable Health Clinic) from NICT and Social Infrastructure Solution from NEC.

ii. The New Ecosystem of Healthcare and Application of m-Health (Continua Health Alliance)

This presentation introduces following main topics.

- Continua Health alliance is an international non-profit industry organization on m-Health and tele-health. Its standards enable end-to-end, plug-and-play connectivity of personal health devices, systems and services in m-Health.
- Activities of Continua Health Alliance are
 - 1) Develop and publish Design Guidelines that combine & apply existing standards
 - 2) Certify products, systems and services for compliance with Continua's Design Guidelines
 - 3) Promote favorable operating climate for personal connected health through advocacy & coordination
 - 4) Connect leading technology developers, innovators and healthcare organizations
 - 5) Creating a global market for personal connected health
- It includes several case examples for m-Health and Monitoring Solutions

iii. ITU-T Focus Group on M2M Service Layer (NEC Corporation)

This presentation introduces following main topics.

- ITU-T FG M2M initiated in April 2012 and concluded officially in December 2013. It focuses on the services and applications for e-health.
- Study area, objective and working structure of FG M2M
- FG M2M has developed five deliverables, gap analysis, ecosystems, use cases, requirements and architectural framework and API and protocol overview
- Five deliverables will be transferred to the relevant SGs of ITU-T (SG11, SG13 and SG16 for the future study in ITU-T on e-health).

iv. M2M Related Activities in Japan – Smart Grid and HEMS (Mitsubishi Electric)

This presentation introduces the following key points.

- Standard activities of ICT for Smart Grid and HEMS in Japan
- Experimental projects for next generation energy and social system in four cities in Japan and Indonesia
- Mitsubishi Electric's activities for Smart Grid trial and Smart House trial
- M2M system architecture and technologies such as wireless mesh network and Gateway connecting things to servers.

v. Report of ITS World Congress Tokyo 2013 (NTT Corporation)

This presentation introduces following key points.

- Introduce the main topics of the ITS world congress which was held on 14th to 18th October 2013 in Tokyo.
- It also introduced NTT's seven exhibits in the ITS world congress;
 - 1) Analysis and visualization of telematics big data
 - 2) Predict and prevent congestion
 - 3) Bridge monitoring system (BRIMOS)
 - 4) Enhancement technique for synthesized speech in noise effective against ambient noise
 - 5) Reverberation Control Technology
 - 6) Monitoring GHG emissions with in-vehicle laser gas sensing system
 - 7) Millimeter wave camera

vi. Internet of Things in China (P. R. of China)

This presentation introduces following key points.

- Activities of Chinese government to promote the healthy and orderly development of the IoT.
- Main tasks for IoT development and action plan in 10 areas
- It introduce nine pilots and demonstrations in the important application areas, Industrial area, Agricultural area, Financial services, Smart Grid, Intelligent transportation, logistics area, Medical and health care, Public safety, Smart environment protection.
- China mobile has completed to deploy the IoT dedicated network to support IoT and Smart City is being built in China.
- Standardization activities in China such as SAC and NDRC. China also takes part in the international IoT standardization activities in ITU-T, oneM2M, 3GPP and ASTAP.

vii. OneM2M: Delivering Global Standard for M2M Service Layer Platform (Fujitsu Lab.)

This presentation introduces the following key points of oneM2M

- Mission, scope and objectives
- Organization chart and working area of each working group
- Architecture, entity and reference points
- Core protocols and bindings
- How to use oneM2M
- It can be used for easy access to M2M data, painless global M2M service and quick system deployment

c) **Conclusions**

M2M and IoT are widely adopted in the various systems to optimize the infrastructure and make more efficient use of resource and energy. Multiple SDOs such as ITU-T, Continua, oneM2M and 3GPP are heavily involved in the standardization on M2M and IoT. It is expected to use ICT technologies easier and cheaper by the standard M2M platform in the area where it was difficult to adopt it because of its cost.

There were informative and useful presentations on e-Health, Smart Grid and ITS in the workshop. And ITU-T, Continua Health alliance and oneM2M introduce their activities. It is important for ASTAP and all the participating countries to know the latest situation of standardization activities in the world, and it is important not only for developed countries but also for developing countries as developing countries sometimes deploy the latest technologies from the beginning.

ASTAP needs to continue to follow the standard activities on M2M and IoT. Information shared in the workshop should be reflected in the future ASTAP activities. It was proposed that M2M WG of ASTAP would take a lead of the discussion and study the service and use cases of M2M and IoT and NGN EG would study network technologies to support them. We thought the presentations which were introduced in the workshop were good input to push forward the discussion in the ASTAP.

If ASTAP could provide our specific use cases and requirements to ITU-T and oneM2M based on the discussion in M2M WG and NGN EG, it would be a good contribution to the future standardization of M2M and IoT. It was proposed to consider them into the agenda of M2M WG and NGN WG in the meeting of ASTAP.

ASTAP should promote the study on M2M/IoT and aim at developing document and making contributions to the global standardization activities such as ITU-T, oneM2M and Continua Health Alliance in the future.

Industry Workshop 2 – Rare Metal and eWaste

a) Rare Metal and e-waste related Issues

The morning session of the 5th Industry Workshop Program was very successfully proceeded by some active APT membership countries including Malaysia and Thailand, and the Republic of Korea. The detailed program composed of 5 presentations to address current issues on the topic of rare metal by its Program Committee led by Dr. Bum Sung Kim, (KITECH, Rep. of Korea).

More detailed information on those presentations is summarized in Table 1 as shown below.

Table 2: List of the presentations

No.	Title	Presenter
1	Malaysian Industry Experience for e-Waste Recycling Project	Mr. Alex Kuik Teck Seng, Malaysian Technical Standard Forum Berhad (MTSFB), Malaysia
2	Strategy and R&D Trend on Rare Metals	Dr. Bum Sung Kim KITECH, Rep. of Korea
3	The Recycling of Rare Earth Resources from the Downstream Applications	Dr. Hyun Seon Hong Institute for Advanced Engineering (IAE), Rep. of Korea
4	e-Waste Activities in Thailand	Dr. Kanokwan Komonweeraket Thailand
5	Sustainable Development in Mining of Energy Resources	Prof. Sun-Myung Kim, Shinhan University, Rep. of Korea

b) Presentation Details

- i. Malaysian Industry Experience for e-Waste Recycling Project, presented by Mr. Alex Kuik Teck Seng, Malaysian Technical Standard Forum Berhad (MTSFB), Malaysia
 - The presentation highlights Malaysia's strong commitment on reducing Carbon Footprint as well as efforts to promote best practices for disposal of sim-based devices in Malaysia
 - The efforts continues with highlights of the upcoming proposal by Malaysian Technical Standards Forum Berhad (MTSFB) to enhance current initiatives to have a wider and more effective e-waste recovery initiatives by bringing various stakeholders from Mobile communications industry, NGO's as well as government agencies.
- ii. Strategy and R&D Trend on Rare Metals, presented by Dr. Bum Sung Kim KITECH, Rep. of Korea
 - These days, rare metals become a hot issue due to its core role to the main element as well as its rarity. Since the rarity is determined not only by its amount existent in earth, but also the balance between the demand and supply, the assurance has been propelled in various manners, such as

exploration of new ores, recycling, substitution, etc. At present, Korea tries to develop the rare metal related industries by considering the value chain principle. Also, international cooperation is also vividly carried out, since the rare metals are of global issue. This talk will summarize strategy and R&D trend on rare metals will be discussed using a sort of industrial data present and future.

iii. The Recycling of Rare Earth Resources from the Downstream Applications, presented by Dr. Hyun Seon Hong Institute for Advanced Engineering (IAE), Rep. of Korea

- Nowadays, production and demand of rare-earth elements have increased quite rapidly owing to ever-increasing market size and consequent developments in the related technologies, which are typical of current era of advanced information technology. 30 and 90 percent of worldwide deposit and production are dependent on China, respectively. For sustainable supply of REE, e-waste recycling is attracting attentions: air conditioners, washing machines, hard disks, batteries, and other consumer electronics in addition to mine tailings. Most of unit operations for REE recycling are in R&D stage. For an example, unless end-of-life display devices are disposed of properly, they are quite hazardous and detrimental to human society and environment: More importantly, valuable rare metal and rare earth resources could be lost. Due to lack of domestic Korean infrastructure for efficient recycling of waste display devices, most of the wastes are incinerated except for mechanically detachable parts such as plastic case and metal frame, which is quite deplorable for Korea as a renowned supplier possessing most advanced technologies related to display devices. Therefore, environment-friendly and efficient recycling technology for LCD panel and backlight unit is to be developed intensively, especially in the fields of physical separation of parts, selective segregation of desired rare metal and rare earth elements of value, and acid leaching to meet WEEE (waste electrical and electronic equipment) directives imposed by EU since 2003, which is deemed most essential for Korean competitive potential and related national strategy.

iv. e-Waste Activities in Thailand, presented by Dr. Kanokwan Komonweeraket, Thailand

- Dr. Kanokwan's presentation provided an overview of the e-waste management in Thailand, including current situation and management of e-waste, problems and challenges, and projects and campaigns related to e-waste. The presentation showed that the Pollution Control Department has made a great effort to establish the environmentally sound management of e-waste in Thailand. Overall, the presentation was concise, and very informative, which gained the audience's attention and interest effortlessly

- In more details of the presentation: e-waste has become a concern over the past several years due to the increasing amount of waste and lack of appropriate infrastructure, laws and regulations, and procedures for its recycling and disposal in Thailand. The survey found that people prefer to sell e-waste to junk shops/informal recyclers (~51.2%), keep them at home/office (~25.3%), disposed in the municipal solid waste stream (~15.6%), or donate or give away (7.9%). Mismanagement of e-waste in the informal recycling sector poses a hazard to the environment and human health. The Pollution Control Department along with other relevant government agencies have established the National Integrated Strategy for the Management of Waste Electrical and Electronic Equipment since 2007, which place a priority on the development of legal system and financial mechanism for managing e-waste. The concept of Extended Producer Responsibility (EPR) has been adopted and implemented through the current (draft) national strategy for 2014 - 2021 and the developing Thai's e-waste law.
- v. Sustainable Development in Mining of Energy Resources, presented by Prof. Sun-Myung Kim, Shinhan University, Rep. of Korea
 - a) Mining inevitably affects the natural environment and local communities. Economic benefits of mining sometimes come with significant environmental and social costs to mining communities and regions. Balancing the economic, environmental and social benefits and costs of mining is the focus of the quest for sustainable development in mining. This presentation reviews the overview of sustainability and sustainable development related to mining activity, and recent trend of sustainable indicators & guidelines development in mining sector

c) Conclusions

Most of presentations introduced in the morning session of the 5th Industry Workshop in association with ASTAP-23 were intended not only to promote information exchange on comparatively new issues on rare metal and e-waste, but also to increase possible involvement from industries in this APT region.

However, there were some general proposals and comments that all the valuable information and suggestions expressed during the Workshop session should be considered as possible clues to trigger new standardization activities in future ASTAP meetings.

D. Meeting Sessions

a) ITU-T WG Report

Mr. Kaoru Kenosyhi chaired this working group. The discussions are the followings:

- WG ITU-T discussed the next C&I event which will be held in August 2014 back to back with the ASTAP24. This discussion was preliminary and the details of the event would be discussed in the Coordination Committee. The followings were tentatively agreed in the meeting.
 - 1) To establish the Coordination Committee for the preparation of the C&I event
 - 2) Mr Kaoru Kenyoshi (NEC, Japan) was assigned as the chair of the Coordination Committee
 - 3) The following three items were proposed as the candidates of the topics of the event but not limited to.
 - a) M2M/IoT/e-Health
 - b) NGN (IMS) NNI interoperability
 - c) Language translation
- A question was raised to point out the difficulties of the testing of M2M/IoT. Several SDOs work for standardization and challenge for interoperability of M2M/IoT and there were a lot of layers and interfaces. It is difficult to identify which interface could be tested. We understand current situation and there are several possibility if the standards and implementation are mature enough, it could be an item for the Testing. If it is premature for the testing, it could be an item for Showcasing. The Coordination Committee will discuss the several options case by case.
- VNPT provided a presentation on NGN (IMS) NNI interoperability in the Workshop of the previous C&I event. Many operators are going to deploy VoIP and VoLTE and NGN (IMS) NNI interoperability and it is a very hot topic in the telecom industry. It is expected that multiple operators would join the testing and/or showcasing on this topics. The Coordination Committee will discuss how to coordinate of the testing and/or showcasing on NGN (IMS) NNI interoperability because the testing might be done remotely.
- A delegate proposed language translation could be a candidate of the topics of the C&I event and it was proposed in the answer to the questionnaire as well. The chair of EG-SNLP kindly accepted to consider the details of the testing and/or showcasing on language translation.
 - 4) The date of the event
 - a) Interoperability testing - 25th August
 - b) Showcasing - 25th – 26th August
 - c) Workshop - 26th August
 - 5) The future work schedule
 - a) Issue the invitation letter to the member of APT by 14th March
 - b) Close the registration to the member of the Coordination committee - 31st March
 - c) The first Coordination Committee (tele-conference) - Mid of April

b) M2M Working Group

This WG was chaired by Ms. HaiHua Li from China. The summary of the discussion are:

- Discussion on the “White Paper on Smart Grid”
 - **Proposal for an Update of "Working Document on a Draft APT Report on Smart Grid in APT Region (ASTAP-23/INP-31)**

This contribution was submitted by Mr. Junya NOMURA from Ministry of Internal Affairs and Communications (MIC) , Japan, and Ms. Michiko Fukahori, MIC, Japan presented the contribution. This contribution proposed to update the content in the sub-section “5.1 Japan” of the working document (ASTAP-22/TMP-12). This proposal was agreed and relevant texts in the report on Smart Grid in APT region were updated based on this contribution.
 - **Typical Use Cases on Smart Grid from China (ASTAP-23/INP-40)**

Acting chairman, Ms. Haihua Li from CATR, China, introduced the contribution, and it gave some typical use cases of Internet of Things applied to support smart grid, such as HAN (Home Area Network), power transmission and transformation, EV (Electric Vehicle) . This proposal was basically agreed, and relevant texts were included into the report on Smart Grid in APT region.
 - **M2M related activities in Japan – Smart Grid and HEMS (ASTAP-23/INF-12)**

Meeting quickly reviewed the presentation for the ASTAP 23 industry workshop on smart social infrastructure. As the results of discussion, it was agreed:

 - To capture information related to the Smart Grid activities in Japan, and merge into sub-section 5.1 of the report on Smart Grid in APT region
 - To collect some viewpoints from “Concluding remarks” of this presentation, and add to section 6 of the report on Smart Grid in APT region
 - *The Smart Grid white paper is still work in progress. Any new inputs are welcomed.*
- Discussion on the “White Paper on e-Health”
 - **Proposal of Referring to the Achievement of ITU-T FG M2M (ASTAP-23/INP-39)**

Acting chairman, Ms. Haihua Li from CATR, China, introduced the contribution. This contribution proposes to merge section 2 “e-health related standardization activities” of the FG M2M deliverable “M2M standardization activities and gap analysis: e-health” to section 5

“Related international standardization activities” of “M2M standardization activities and gap analysis: e-health”. This proposal was agreed, and the relevant content will be compressed and merge into the report on e-Health in APT region.

- M2M-WG would like to request all APT member countries to provide information about the current e-Health situations
- Future Plan
The next meeting is planned during the next ASTAP meeting.
Discussion items at the next meeting are follows, but not limited to,
 - Smart Grid situation in APT countries
 - Draft report on Smart Grid in APT region
 - Smart Grid standardization status in ITU-T and other SDOs
 - e-Health situation in APT countries
 - Draft report on e-Health in APT region
 - e-Health standardization status in ITU-T and other SDOs
 - other M2M applications/services such as ITS
- There have been a lot of activities in M2M and IoT and member countries are requested to share their IoT implementations.

c) Future Network and Next Generation Network (FN & NGN) WG

There were 4 sessions for this meeting. The meeting was chaired by Dr. Joon Won LEE (Rep. of Korea) associated by acting vice-chair Mr. Kaoru Kenyoshi (NEC Corporation Japan).

Table 3 below shows lists of input document that were presented and discussed.

No.	Description	Source
1	Proposal to Standardize Liner Protection Switching for Packet Transport Networks	P.R. China, Japan
2	Consideration of FN Standard Development	Chairman , ITU-T SG13
3	Status of MPLS-TP Linear Protection Switching Standardization Activities in IETF and ITU-T	Korea
4	Technical and Design Issues of NGN	Korea
5	Progress report	Chairman, EG FN&NGN
6	Liaison Statement to EG FN&NGN	Chairman, WG PRS

7	Status of Future Network Standardization in JTC 1/SC 6	Korea
8	SDN in CCSA	China

Below are the future works of the working group

- Following up the liaison statement of ITU-SG15
- Following up the new Study Question by Iran expert
- Preparation on the strategy for the new period of ASTAP from next year
- Expansion of scope to FN and SDN.
- Discussion on the items of EG FN&NGN ToR based on the input contributions and studies the potential of APT common proposal to the ITU-T meeting.
- Discussion on the proposal (ASTAP-22/INP-08) will be continued via electronic method.
- Following other standard bodies activities
 - ISO, GSC and CJK meeting etc.

d) Expert Work Group on Next Generation Web

The meeting was chaired by vice-chairman of EG NGW, Dr. Hideki Yamamoto, OKI, Japan. The summary of the meeting as follows:

- In the meeting of EG NGW, total six documents were reviewed. They were suggested by Dr. Yamamoto, OKI (Japan). In the six documents, two were information documents and others were input documents.
- The reviewed documents were as follows:
 1. Consideration on Contents of Disaster Information for IPTV based Digital Signage
 2. Requirements on Handling of Disaster Contents for IPTV Based Digital Signage
 3. Requirements on Accessibility of Disaster Information for IPTV based Digital Signage
 4. Sample Workflow in Disaster Situations for IPTV based Digital Signage
 5. Introduction of IPTV standard extension to 4K and HEVC/H.265
 6. Introduction of the Next ITU-T SG16 Meeting in Sapporo
- As the result of the discussion, EG NGW decided to support the next C&I events by APT.
- Finally, there were no updates of EG NGW ToR.
- The intension of the resignation of the chairman of EG NGW, Dr. Sungham Kim, was reported by vice chairman.
- **Future Plans**
 - EG NGW decided there were no updates for ToR of EG NGW.
 - EG NGW will continue to share the activities of Web technologies in W3C, as well IPTV issues, e.g. digital signage service.
 - EG NGW will try to support the next C&I event, for the demonstration and the interoperability testing of standard-based products that may be

related with HTML5, IPTV and digital signage.

- EG NGW will try to promote the expansion and more contributions among EG NGW members in future.

e) Closing

- Each WG chairman reported their WG activities
- Few output documents were discussed and adopted
- The current leaders for the WG were highlighted
- It was stated that there will be nomination and election of new WG at the next ASTAP meeting.

E. Conclusion

ASTAP-23 meeting was held for 5 days. It started with 2 plenary tracks on M2M IoT and Rare Metal & e-Waste. This was followed by working group meetings. Following are the take away points that MTSFB and MCMC should consider

- *It was stated that the nomination for working group leaders is open and Member countries can nominate to lead a WG. New leadership will be appointed at ASTAP-24 meeting. It would be good if Malaysia can nominate someone to take lead on few of the WGs such as M2M, NGN and ICTCC.*
- *There are few areas in M2M that Malaysia can submit working document. It is suggested that Malaysia present the status of Smart Grid, e-Health, Aquaculture and Public Safety implementation based on IoT. MIMOS can take the lead role to provide the information and present at the meeting. This information would then be included as the ASTAP white paper.*
- *Another presentation that will highlight the deployment of ICT in Malaysia would be on Future Network. It is recommended that Malaysia present its strategy on Future Network.*
- *One of the new area of standard work is on Future network, specifically on Software Define Network (SDN)*
- *We should do more presentations at the ASTAP and also attend ITU meetings on new areas such as IoT. Malaysia can propose a new guideline or standards at both ASTAP and ITU.*