Association of Unified Telecom Service Providers of India

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Subject: AUSPI's Response to the TRAI's Consultation Paper No.21/2016 on 'Spectrum, Roaming and QoS related requirements in Machine-to-Machine (M2M) Communications'.

Dear Sir,

Please find enclosed AUSPI's Response to the TRAI's Consultation Paper on 'Spectrum, Roaming and QoS related requirements in Machine-to-Machine (M2M) Communications' for your consideration.

Thanking you,

Yours sincerely,

Ashok Sud
Secretary General
Mob: 9312941515

Encl: As above

Copy to :

1. **Shri R S Sharma, Chairman, TRAI**
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AUSPI's Response to the TRAI 's Consultation Paper No.21/2016 on 'Spectrum, Roaming and QoS related requirements in Machine-to-Machine (M2M) Communications'

Q1. What should be the framework for introduction of M2M Service providers in the sector? Should it be through amendment in the existing licenses of access service/ISP license and/or licensing authorization in the existing Unified License and UL (VNO) license or it should be kept under OSP Category registration? Please provide rationale to your response.

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Q2. In case a licensing framework for MSP is proposed, what should be the Entry Fee, Performance Bank Guarantee (if any) or Financial Bank Guarantee etc? Please provide detailed justification.

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Q3. Do you propose any other regulatory framework for M2M other than the options mentioned above? If yes, provide detailed input on your proposal.

AUSPI's Response

We are of the view that M2M services and the applications primarily evolve around the IT domain and its enabling as well as the operating processes. Various business models for the M2M service involve various stake holders of devices, platforms, gateways etc. and the same do not correlate with any form of licensing conditions except those for the underlying access network. Therefore, we are of the view that M2M service should not be brought within the purview of strict licensing regime.

As the M2M service is at a nascent stage, it has to meet the challenges faced by any new technology and group of services. Only a light touch of regulation should be considered to keep an adequate space for innovation, standardization and following up of the global best practices. All M2M service providers utilising telecom facilities from authorised TSPs should be governed by an MSP registration policy as is in the case of OSP registration with light touch regulations.

M2M service providers would always be using the underlying TSP's network for connectivity which is based on global best practices for reliability, security and privacy. However, M2M services are distinguished from the telecom services on account of the following:

- While the TSPs have a direct B2C business model, the M2M service providers have only a B2B business model with both the TSP as well as the OEM of the user end devices.

- The services of the M2M service providers can be prepaid for life by the OEMs of the user end devices.

- The SIMs embedded in the user end devices have an indirect relationship with the user and the relationship can change hands after the original user undertakes a second hand transaction by selling or buying the device.

In order to provide end-to-end safe and secure services, it is important that the M2M service providers and OEMs should be required to follow some of the practices of which some examples are given below:

- Traceability and monitoring facility to the LEAs to be provided regarding M2M device, usage (to have easy accessibility for LEAs in India).

- Protection of privacy of users' data.

- Since the OEMs sell the devices directly to the customers, it is imperative that they be obligated for the KYC of the end customer of the M2M services.

- Important issues like database management and security.

In summary, we are of the view that:

- **There should be a light touch regulation for M2M service providers.**

- **M2M service providers should be brought under registration frame work similar to Other Service Providers (OSP) category.**

- **The obligations for Entry Fee, Performance Bank Guarantee (PBG) or Financial Bank Guarantee (FBG), etc. should be similar to OSP registration.**

- **M2M Service providers shall take telecom resources from authorized TSPs only.**

- **M2M service applications need to be hosted on clouds in the Indian Territory.**

- **M2M service providers should be obligated for facilitating the traceability and ensuring privacy of the users.**

- **The OEMs of the user end devices should be obligated for the KYC of the users of their devices.**

Q4. In your opinion what should be the quantum of spectrum required to meet the M2M communications requirement, keeping a horizon of 10-15 years? Please justify your answer.

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Q5. Which spectrum bands are more suitable for M2M communication in India including those from the table 2.3 above? Which of these bands can be made delicensed?

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Q6. Can a portion of 10 MHz centre gap between uplink and down link of the 700 MHz band (FDD) be used for M2M communications as delicensed band for short range applications with some defined parameters? If so, what quantum? Justify your answer with technical feasibility, keeping in mind the interference issues.

AUSPI's Response

M2M services are totally bonded with internet involving devices, software and platform as needed and the network for accessing of the applications relating to M2M services.

It is not advisable to earmark separate spectrum for M2M services as these services utilizes various networks, multiple hops, mobility etc. of the existing network. Therefore, segregation and reservation of separate spectrum or specific band for M2M service is not desirable.

Delicensing of any band other than the delicensed band as per NFAP is also not recommended. We do not feel the necessity of using any portion of 10 MHz centre gap between uplink and downlink as 700 MHz band. Instead, we strongly suggest applicability of nominal charges for spectrum usage on the lines of TRAI recommendation on Allocation and Pricing of Microwave Access and Microwave backbone carrier for usage on E&V Band

We, therefore, suggest that:

a. **No separate quantum of spectrum is required and needs to be specified for M2M service.**

b. **No portion of 10 MHz centre gap between uplink and downlink in 700 MHz (FDD) band should be de-licensed for use for M2M communications.**

c. **Nominal charges for spectrum usage, as recommended by TRAI for the E&V band, should be levied for any segregated spectrum utilized for M2M services.**

Q7. **In your opinion should national roaming for M2M/IoT devices be free? (a) If yes, what could be its possible implications?**
(b) If no, what should be the ceiling tariffs for national roaming for M2M communication?

AUSPI's Response

National roaming of M2M / IOT device should be free. As all operators are providing free domestic roaming for data services, it is suggested that free national roaming facility is also extended to M2M services.

Q8. **In case of M2M devices, should;**
(a) Roaming on permanent basis be allowed for foreign SIM / eUICC; or(b) Only domestic manufactured SIM / eUICC be allowed? And / or(c) There be a timeline / lifecycle of foreign SIMs to be converted into Indian SIMs / eUICC?(d) Any other option is available?Please explain implications and issues involved in all the above scenarios.

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Q9. **In case permanent roaming of M2M devices having inbuilt foreign SIM is allowed, should the international roaming charges be defined by the Regulator or it should be left to the mutual agreement between the roaming partners?**

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Q10. **What should be the International roaming policy for machines which can communicate in the M2M ecosystem? Provide detailed answer giving justifications.**

AUSPI's Response

Permanent roaming is one of the key areas and needs a cautious regulatory approach for roaming of the M2M devices. The need to offer service internationally is critical as they influence connectivity. Regulatoryaspects on this front are still unclear internationally.

Licensing conditions of the TSPs requires that the data pertaining to the subscribers shall remain within India. Since the usage of M2M service contains user's private data, it is suggested that the end to end M2M service set up for provisioning of service in India should be mandatorily hosted in India.

From the economic point of view, it makes sense to mandate use of domestic SIMs for the device being used in India, but the fact that India is endeavouring to become a global manufacturing base, mandating use of only Indian TSP SIMs could have a reciprocal effect on the goods that are manufactured and exported from India. We, therefore, need a balanced approach towards permitting foreign SIMs in M2M service devices imported to India. It is suggested that **if the M2M devices are to be used in India for more than 1**

year's duration, the SIMs of foreign TSPs should be necessarily converted to domestic TSP SIMs within a period of 1 year from the date of activation of the device in India.

Additionally, given the envisaged scales of service provisioning in India, it is submitted that mutual agreements between the roaming partners and the MSPs would be able to extract the best price for the roaming charges of the M2M devices. Therefore, **it is ideal that the tariffs for international roaming be negotiated mutually between the roaming partners and the MSPs.**

Q11. **In order to provide operational and roaming flexibility to MSPs, would it be feasible to allocate separate MNCs to MSPs? What could be the pros and cons of such arrangement?**

AUSPI's Response

It is important that the numbering resource including MNC for M2M services are provisioned through underlying network service operators only. It may be recalled that it is the similar situation to that of MVNO where underlying network numbering resource are being used for provisioning of service.

Deployment of entire HLR infrastructure will require substantial investments and extensive roaming arrangements with various TSPs. M2M service is part of the data service with fewer complexities. As operators are providing free roaming for data service, it is suggested that provisioning of free roaming for M2M service would provide operational and roaming flexibility for M2M service without complexity and cost of deploying switches and the HLRs.

We suggest that the numbering resources for the M2M services to be provisioned through the underlying NSOs only.

Q12. **Will the existing measures taken for security of networks and data be adequate for security in M2M context too? Please suggest additional measures, if any, for security of networks and data for M2M communication.**

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Q13. **(a) How should the M2M Service providers ensure protection of consumer interest and data privacy of the consumer? Can the issue be dealt in the framework of existing laws?**

b) If not, what changes are proposed in Information Technology Act. 2000 and relevant license conditions to protect the security and privacy of an individual?
Please comment with justification.

AUSPI's Response

All M2M service providers need to ensure security and privacy from onset of IoT system design process along with the development of co-regulation by all stakeholders to protect security and privacy. If required, development of privacy and consumer protection rules need to be ensured for security testing of IoT systems that process sensitive personal data.

The existing measures taken for security of networks and data would not be adequate for security in M2M context and the issue cannot be dealt in the framework of existing laws.India should have maximum possible number of "Mutual Legal Assistance" agreements for getting information from M2M services setups hosted in cloud setups outside of India's territorial boundaries.

MSP registration framework should have obligatory clauses for facilitating traceability and monitoring facilities to the LEAs, privacy of human end users' of M2M services.India should mandate provisioning of end to end M2M services from locally hosted setups.

A light touch regulatory regime has facilitated growth of innovative IT and Cloud based services, of which M2M is also a subset. Therefore, it is most desirable that a similar regime be persisted with. In India, following general and specific legislations prescribe various general, technical, financial, and security related conditions for the IT and Cloud Service Providers.

- Income Tax Act, 1961.
- Consumer Protection Act, 1986.
- Payment and Settlement Systems Act, 2007.
- Indian Copyright Act, 1957.
- Central Excise Act, 1944.
- Prevention of Money Laundering Act, 2002.
- Information Technology Act, 2000.
- Foreign Exchange Management Act, 1999.
- Customs Act, 1962.

Q14. **Is there a need to define different types of SLAs at point of interconnects at various layers of Heterogeneous Networks (HetNets)? What parameters must be considered for defining such SLAs? Please give your comments with justifications.**

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Q15. **What should be the distributed optimal duty cycle to optimise the energy efficiency, end-to-end delay and transmission reliability in a M2M network?**

AUSPI's Response

The M2M System should be able to make use of the Quality of Service (QoS) supported by underlying networks. M2M applications or service capabilities may use QoS capabilities of the underlying networks when implemented by the system.

There is no need to define different types of SLAs at point of interconnects at various layers of Heterogeneous Networks as well as any distributed optimal duty cycle to optimise the energy efficiency, end-to-end delay and transmission reliability in a M2M network.

The energy efficiency of the M2M devices is solely dependent on the frequency of feedback from the end devices. Therefore, the optimization of the services shall largely depend on the application that is deployed for provisioning the M2M services.

Q16. **Please give your comments on any related matter not covered in this consultation paper.**

AUSPI's Response

Duration of keeping data logs needs to be carefully defined as innumerable number of censors will generate huge amount of data. We, therefore, suggest duration of logs should be limited to six months each online and offline logs.

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