

# **Draft Regulatory Framework for IoT/M2M Communication**

# **Draft Regulatory Framework for IoT/M2M Communication**

## **1. General Definition**

Unless the subject or the context otherwise requires, in the regulatory framework on Internet of Thing (IOT) and Machine to Machine (M2M) communication.

- a. Applicant - is the existing operator of the new interested entities parties to provide the IOT and M2M communication services in Nepal.
- b. "Act" means the Telecommunications Act, 1997(2053).
- c. "Authority" means the Nepal Telecommunications Authority
- d. Type Approval" means an authorization by the Authority to use or supply an equipment type.
- e. Internet of things (IoT) [ITU-T Y.2060]: A global infrastructure for the information society enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving, interoperable information and communication technologies.
- f. M2M: M2M stands for "machine-to-machine" communications. Essentially, it is the exchange of data between a remote machine and a back-end IT infrastructure

## **2. Licensing/Authorization**

A wide range of IoT/M2M services are emerging. In general, IoT/M2M services can be categorized based on network size/coverage.

- Indoor IoT/M2M services: This category includes IoT/M2M applications/services that use wired/wireless network created only inside a building. The IoT/M2M devices cannot be connected with internet or corporate intranet.
- Outdoor IoT/M2M services: This category includes the IoT/M2M applications/services that use intra/internet connection.

To provide outdoor IoT/M2M services the authority shall provide authorization to the IoT/M2M service providers. For indoor IoT/M2M services the authorization from the authority may not be needed. The authorized IoT/M2M services providers could be:

- a) Authorized Telecom Service Providers (TSPs), Network Service Providers (NSPs), and Internet Service Providers (ISPs), who wish to provide IoT/M2M services.
- b) Authorized IoT/M2M service providers.

The Authorized IoT/M2M service providers shall provide services by using the network provided by the TSPs, NSPs, and ISPs, as of traditional Value-Added Service (VAS) providers. The authority may prepare and suitably amend the authorization conditions as per needed.

### **3. Provisioning of Spectrum**

#### **I. Cellular IoT/M2M**

Cellular IoT Services shall be provided only by the Mobile Service licensee and Basic Telecommunications Service licensee.

#### **II. Non-cellular IoT/M2M**

License exempted bands for IoT, UWB band, SRD bands and ISM bands as specified by NTA shall be used under given condition for non-cellular IoT/M2M applications.

### **4. IoT/M2M Device Identification**

- I. The numbering range shall be used as per National Numbering Plan following ITU-T E.164 and 164.1 standard. However, based on the growth of IoT/M2M services the requirement shall be reviewed by the authority.
- II. If necessary, the authorized IoT/M2M service provider shall get the SIM

cards from the telecom service providers for IoT/M2M services. Those SIM cards shall only be used for IoT/M2M service

- III. Suitable Internet Protocol (IP) Addressing is permissible, however the IPV6 is most preferable.
- IV. The international roaming shall be allowed if required.

## **5. Security, Privacy and Data Management**

IoT service provider must comply with the following:

- I. Host all servers used in providing IoT services and store all data within the territory of Nepal
- II. Responsible for data breaches and privacy
- III. Report the data breaches to the NTA within five working days after becoming aware of such a breach.
- IV. Maintaining and storing the data as per existing data retention rules for telecommunication services.
- V. Comply with all the laws, regulations and requirements issued by NTA concerning data management including security, privacy and protection of IoT user's data.

## **6. IoT/M2M Equipment**

- I. The IoT/M2M service provider shall not install or connect, or permit the installation or connection of, any Terminal Equipment unless the Terminal Equipment is type approved from the Authority, or otherwise permitted by the Authority.
- II. All the equipment used to provide IoT/M2M services must comply with Type Approval regulations and standardization requirements as set by the authority time to time.