



**DECISION AND EXPLANATORY MEMORANDUM ON PROPOSED MACHINE-TO-MACHINE ACCESS CODE ALLOCATION FRAMEWORK**

**ISSUED ON 22 JULY 2013**

**PART I: INTRODUCTION**

**PART II: SUMMARY OF RESPONSES**

**PART III: IDA'S DECISION**

## **PART I: INTRODUCTION**

1. IDA released a public consultation paper on the “Proposed Machine-to-Machine Access Code Allocation Framework” (“**M2M Consultation**”) on 11 April 2013, to seek views and comments from the industry on the following;
  - a. the proposed definition of Machine-to-Machine (“**M2M**”) service is suitable for the current and future M2M service development;
  - b. M2M technology and market development, particularly views on estimated number of M2M devices and machines, and types of applications and services in the next 5 to 8 years;
  - c. the estimated timeframe for the establishment of non-Mobile Subscriber Integrated Services Digital Network-Number (“**non-MSISDN**”) identification and addressing standards (e.g. IPv6) for M2M services and when this option will become mainstream for M2M addressing purposes;
  - d. the proposed 5-digit M2M Access Code ‘144XX’ (where ‘X’ is any number from ‘0 to 9’), particularly on any usability issues if 13-digit numbers are used for M2M addressing in the areas of domestic, international interconnectivity and international roaming;
  - e. the proposed charging arrangements for the M2M Access Code; and
  - f. the management of M2M addressing to facilitate market innovation and to ensure efficient use of the numbering resources allocated.
2. Upon closure of the M2M Consultation on 10 May 2013, IDA received comments and feedback from four respondents. IDA thanks all respondents for their comments. IDA has given careful consideration to the views received. The sections below discuss the key issues raised and set out IDA’s decision on the issues discussed in the M2M Consultation Paper.

## **PART II: SUMMARY OF RESPONSES**

3. IDA sought industry’s views on its proposed M2M service definition and whether it is aligned with the current and future M2M development. Three respondents were supportive of the proposed definition, while the remaining respondent did not comment on the proposed definition.
4. On the M2M technology and market development, particularly views on the estimated number of M2M devices and types of applications for the next 5 to 8 years, one respondent commented on the potential list of devices and appliances, and the expected volume of devices and machines to be in the millions. The other three respondents did not comment on the expected volume or types of application.

5. On the estimated timeline when non-MSISDN identification and addressing standards for M2M services will become mainstream, one respondent commented that it would be unlikely that IP-based addressing would be adopted in the near term and agreed with IDA on the use of E.164 addressing in the meantime to facilitate M2M communications and services. The three other respondents did not comment on the estimated timeline for non-MSISDN identification.
6. On the proposed assignment of 5-digit M2M access code '144XX' (where 'X' is any number from '0 to 9'), and the question of usability if 13-digit numbers are used for M2M addressing in the areas of domestic, international interconnectivity and international roaming, one respondent preferred to maintain the existing 4-digit format particularly for Facilities-based Operation ("FBO") Licensees but did not object to the 5-digit format particularly for Service-based Operation (Individual) ("SBO(I)") Licensees. The respondent also suggested to have the M2M access code reserved in a block of ten access codes for FBO Licensees only. Two respondents were supportive of the proposed 5-digit format. One respondent commented that IPv6 addressing would be the longer term approach for M2M, but did not comment on the interim addressing needs.
7. On the proposed charging arrangements for the M2M Access Code. Two respondents were supportive of the charging arrangement, while two respondents did not comment.
8. IDA noted all the additional suggestions and queries from all the respondents and has given careful consideration to all the views submitted.

### **PART III: IDA'S DECISION**

9. IDA notes that the proposed M2M service definition, 5-digit access code format and charging arrangement are generally supported by the industry. IDA encourages Licensees to adopt the 13-digit M2M numbering addressing in view of the expected growth of M2M devices, and the demand for numbers. While the industry agrees with IDA's view that non-MSISDN identification addressing standards such as IPv6 addressing will be the longer-term approach, there is no certainty at this point when such standards will become mainstream.
10. IDA will maintain the requirement for Licensees to put the assigned codes into service within 12 months from date of assignment. Licensees should inform IDA early if Licensees realise they are not able to implement the M2M access code before the due date. Where justified, IDA may allow a one-time extension of the implementation date by no more than 6 months.
11. The choice of whether to apply for and use the M2M access codes will be left to individual Licensees. Licensees should refrain from using 8-digit number levels for M2M services as the numbering demand for M2M will drain the 8-digit numbering capacity. The proposed M2M access code allocation framework is

designed to ensure there is sufficient addressing capacity for all Licensees that intend to provide M2M services.

12. With regard to the comment on giving a 4-digit format to FBO Licensees and a 5-digit format to SBO(I) Licensees, IDA does not see compelling reasons to do so for M2M services. As M2M services can be provided by both groups of Licensees and depending on the business proposition and models of Licensees, there is no evidence to suggest that FBO Licensees have greater need for M2M numbering resources and will use these resources more efficiently than SBO(I)s Licensees.
13. On the suggestion to reserve a block of ten access codes for FBO Licensees, IDA also does not see compelling reasons to do so. Such an arrangement will not optimise the numbering resources and could create numbering resource issues in the future. For example, it could lead to insufficient access codes for new Licensees, or create a complicated situation where an SBO(I) Licensee upgrade its licence to an FBO licence and expect ten running order access codes to be reserved. However, IDA recognises the operational ease of operators in managing numbering resources in running sequences. IDA will thus allocate M2M access codes on a first come first serve basis, but may allow some small degree of running sequences, to the extent possible to address the operational needs of Licensees. These codes could be issued sequentially or non-sequentially.
14. To facilitate transition arrangements due to the changes in access code format (from 4-digit to 5-digit), IDA will work with the affected Licensee to minimise impact to the existing services.
15. IDA will include the M2M access code eligibility criteria, allocation criteria and allocation procedure into the National Numbering Plan (“NNP”) which shall take effect from 22 July 2013. Please refer to the revised NNP at <http://www.ida.gov.sg/Policies-and-Regulations/Industry-and-Licensees/Numbering/National-Numbering-Plan-and-Allocation-Process>.