별첨 1. 정보통신단체표준 작성 샘플

TTA Standard

정보통신단체표준(영문표준)

*( )안에는 국문표준/영문표준/잠정표준/기술규격 등 기술

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M2M 단말 등록 및 검색을 위한 개방형 구조에 대한 요구사항

Requirements of open architecture for M2M device registration and discovery

(앞 표지)

한국정보통신기술협회
Telecommunications Technology Association

정보통신단체표준(영문표준)

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Preface

1. Purpose of Standard

The purpose of this standard is to specify requirements of M2M device registration and discovery for M2M service. Also, it is to define concepts and requirements of open architecture for global M2M device registration and discovery.

2. Summary of Contents

It contains the following clauses:.

- Open architecture for global M2M registration and discovery
- Requirements

3. Applicable fields of industry and its effect

This standard specifies requirements for M2M device registration and discovery architecture. This standard can be reference of M2M discovery server(MDS).

4. Reference Standards (Recommendations)

4.1. International Standards (Recommendations)

- ETSI TS 102 690, Machine-to-Machine communications (M2M);
Functional architecture

4.2. Domestic Standards

- None

5. Relationship to Reference Standards(Recommendations)

5.1. Relationship of Reference Standards

- ETSI TS 102 690 “Machine-to-Machine communications (M2M);Functional architecture” defines M2M device registration and discovery service. However, ETSI standard only specifies the M2M device registration and discovery service for independent m2m service platform and limited discovery scheme. This standard specifies global open architecture for M2M device registration and discovery and various discovery schemes to meet requirements of service users.

5.2. Differences between Reference Standard(recommendation) and this Standard

-	ETSI TS 102 690	
1. Introduction		Added
2. Constitution and Scope		Added
3. Reference Standards		Added
4. Terms and Definitions		Added
5. Open architecture for global registration and discovery		Added
6. Requirements		Added

6. Statement of Intellectual Property Rights

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No guarantee can be given as to the existence of other IPRs not referenced on the TTA website.
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7. Statement of Testing and Certification

7.1. Object of Testing and Certification

- None

7.2. Standards of Testing and Certification

-None

8. History of Standard

8.1. Change History

Edition	Issued date	Outline
The 1st edition	2012.08.31	

8.2. Revisions

- None

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Requirements of open architecture for M2M device registration and discovery

1. Introduction

This standard defines requirements of M2M device registration and discovery platform for M2M services. Also, the standard defines the concept and requirement about open architecture that can provide registering and discovering service through a well-defined linkage between platforms.

2. Constitution and Scope

It contains the following clauses:.

- Open architecture for global M2M registration and discovery
- Requirements

3. Reference Standards

- None

4. Terms and Definitions

4.1. M2M device

Device that subscribes to M2M service is able to use M2M communication service.

4.2. M2M service

The service based on data which result from M2M devices.

4.3. M2M applications

It is the software application which is used for M2M service. It could be software application or web-based application

4.4. M2M discovery Server (MDS)

It is the M2M server where M2M devices register to. The MDS also gives search

service for the M2M service users.

4.4. M2M Device Profile

M2M device profile is the information which is used for M2M device discovery. It contains device ID, location information, device access address, device type, service category, tag and simple description.

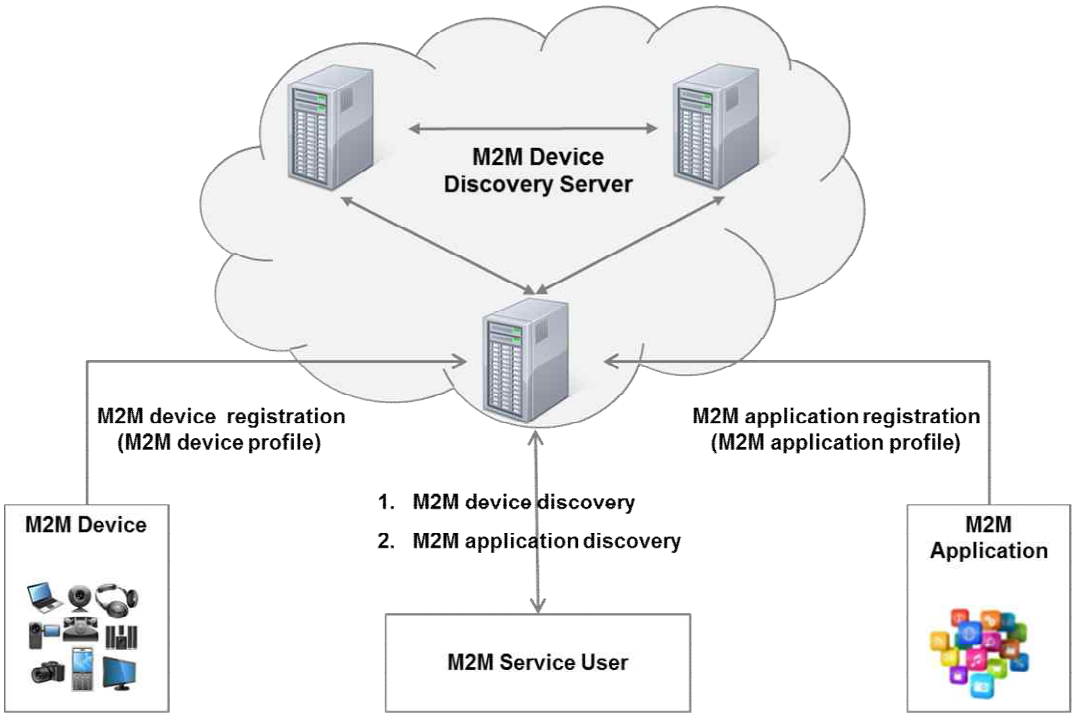
4.4. M2M Application Profile

M2M application is the information which is used for M2M application discovery. It contains application ID, related device ID, service category, tag and simple description.

4.5. M2M Service User

User who uses M2M service by the M2M applications.

5. Open architecture for global M2M registration and discovery



Global open architecture for M2M device registration and discovery has many MDSs. These MDSs cooperate with each other by using mutual open interface to support global registration and discovery. MDS provides registration and update for various M2M device profile. And also, it provides discovery function based on M2M device profile.

Moreover, required M2M application is managed for relevant M2M service. And this make M2M service user discover and use relevant service and necessary information for relevant service easily

This proposed architecture provides M2M device registration and discovery in global framework without restricting it within the structure of M2M platforms. Well-defined linkages between globally and widely deployed MDSs shall be provided.

6. Requirements

6.1. M2M device registration and discovery

M2M device registration procedure should be provided. Also, discovery scheme and service should be provided.

6.1.1 M2M device registration

The M2M device registration function should be provided by using M2M device profile in MDS.

6.1.2. ID-based M2M device discovery

The MDS can provide ID-based M2M device discovery.

6.1.3 location-based M2M device discovery

The MDS can provide location-based M2M device discovery.

6.1.4 category-based M2M device service discovery

The MDS can provide category- based M2M device service discovery.

6.1.5 Tag-based M2M device discovery

The MDS can provide Tag-based M2M device discovery.

6.1.6 Location, service category, Tag combining based M2M device discovery

The MDS can support M2M device discovery function by combining M2M device Tag, location information and service category.

6.1.7 M2M device discovery result provide

Device access address and simple description which result from MDS should be given to M2M service users.

6.1.8 Open API for M2M device registration and discovery provide

Open API for M2M device registration and discovery should be provided. Using the

open API, the M2M service provider can offer various registration and discovery scheme.

6.2. M2M application registration and discovery

M2M application registration procedure should be provided. Also, discovery scheme and service should be provided.

6.2.1 M2M application registration

The M2M application registration function can be provided by using M2M application profile in MDS.

6.2.2. ID-based M2M application discovery

The MDS can provide ID-based M2M application discovery.

6.2.3 Device-ID-based M2M application discovery

Discovery function for M2M application which is related to M2M device can be provided. M2M device needs to access certain application or web page to run M2M service. In this case, information of certain application or web page should also register to MDS.

6.2.4. Service category-based M2M application discovery

The MDS can provide service category-based M2M application discovery.

6.2.5. Tag-based M2M application discovery

The MDS can provide Tag-based M2M application discovery.

6.2.6 Service category, M2M application Tag combining based M2M application discovery

The MDS can support M2M application discovery function by combining M2M

application Tag and service category.

6.2.7 M2M application discovery result provide

The way to access to application and simple description which result from MDS should be given to M2M service users.

6.2.8 Open API for M2M application registration and discovery provide

Open API for M2M application registration and discovery should be provided. Using the open API, the M2M service provider can offer various registration and discovery scheme.

6.3. Access restriction function

The Access restriction function should be provided for M2M registration & discovery This function can be used when security is needed.

6.4. Global registration and discovery architecture

6.4.1. Global system architecture supporting

Open architecture for registration and discovery should not give limited discovery scheme. It should give global discovery scheme.

6.4.2 MDS cooperation supporting

Registration and discovery should be provided on global circumstance through mutual open interface between MDS. MDS cooperation standard should be specified to support MDS cooperation.

6.4.3 Location or country based MDS architecture

MDSs which follow this standard could exist by location or countries. Therefore, Global registration and discovery service should be provided through MDS cooperation.

표준작성 공헌자

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이 표준의 제.개정 및 발간을 위해 아래와 같이 여러분들이 공헌하였습니다.

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