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| Input contributionUse case |
| Use Case Title:\* | Smart Water Metering |
| Group Name:\* | WG1 |
| Source:\* | CAICT |
| Contact: | Yang Guang, CAICT, yangguang1@caict.ac.cn |
| Date:\* | 2017-11-13 |
| Abstract:\* | This input introduces a new use case of Smart Water Metering |
| Agenda Item:\* |  |
| Work item(s): |  |
| Document(s) Impacted\* |  |
| Intended purpose ofdocument:\* | [x]  Decision[x]  Discussion[ ]  Information[ ]  Other <specify> |
| Decision requested or recommendation:\* |  |
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## Smart water metering

### Description

Smart water metering enable automated collection of water meter data. Compared to traditional water metering, this technology can enhance the water management. Smart meter can ensure more accurate water bills, improve detection of leak, illegal connection and tamper alert.

Smart water metering is a typical LPWA Machine-type communication technology(e.g., LoRa or NB-IoT). This technology usually supports years of battery life performance.

Smart water meter is electronic M2M device which supports real time monitoring water consumption of a building, a business or a home. This device typically consists of an embedded controller, meter sensor, display and wireless transmitter.

### Source

OneM2M-REQ-2017-0068

### Actors

* Water customers:
* By reading the Water Consumption Report sent from the M2M Platform, the water customers would track and control the water usage and enable a better consumption plan.
* Customers may include:
	1. Personal user
	2. Company
	3. Water supplier
	4. City administrator
* M2M Platform:
* M2M Platform can obtain and analyses data from the smart water meters. It will also provide interfaces for customer to track and control water usage.
* Mobile Network Operator or Gateway:
* As the transmission medium, it supports the network services between M2M platform and smart water meter for the information transmission.
* Smart Water Meter:
* It is used to send water meter information to M2M platform and receive command from M2M Platform.

### Pre-conditions

1. The smart water meter is properly installed in a wireless coverage area.

### Triggers

None.

### Normal Flow



Figure 1 Smart water metering normal flow

1. The smart water meter collects the water meter data from sensors and send this data to M2M Platform via network.
2. The M2M Platform receives and analyses the data. It provides interface for Application.
3. The application provides useful information and reports for the customers. Information includes real-time water consumption, possible leak, illegal connection, tamper alert ,etc.
4. The customers can check water meter status and make decision via application.

### Alternative Flow

None.

### Post-conditions

For normal flow, the customers can fully master water meter status in time.

### High Level Illustration



### Potential Requirements

1. The M2M system shall support a mechanism to describe the syntax and semantics format of the application data exchanged between the water meter and the application in the network domain.
2. The M2M system shall enable water meter to send data periodically.
3. The M2M system shall enable water meter to receive order from customer via application.