



Lightweight Machine to Machine Device Bootstrapping in Cellular Networks

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Open Mobile Alliance

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1. Work Item Details

Concept	Value
Work Item Title:	Lightweight Machine to Machine Device Bootstrapping in Cellular Networks
Short Name:	LwM2M Device Bootstrapping in Cellular Networks
Version:	1.0

2. Impacts, Relationships and Dependencies

Concept	Value
Existing Specifications Affected:	OMA-RD-LightweightM2M
	OMA-TS-LightweightM2M_Core
	OMA-TS-LightweightM2M_Transport
External Organizations Affected:	IETF
Any Other Impact	None

3. Proposed Timeline

Document	Q1	Q2	Q3	Q4
Technical Specification(s)	07/2022	09/2022	11/2022	12/2022

Note: enter only the target date by when the document will be completed by the Working Group

4. Supporting Companies

Company Name	Membership Type
Nokia	Associate
Itron	Full
AVSystems	Associate

5. Proposed Resources

Deliverable/Role	Volunteer
Enabler Editor	Colin Grealish (Nokia)

6. LwM2M Device Bootstrapping in Cellular Networks

There is a huge opportunity for using LwM2M devices within Cellular networks, especially for applications requiring wide area network connectivity or roaming. Because cellular networks use licensed spectrum, they provide a level of security for the lifetime of the device and associated service.

The advent of Low Power Networks for Cellular has also provided a new range of applications on a par with the unlicensed technologies such as [WIZE](#), [LoRaWAN](#) and [Sigfox](#).

LwM2M is a good fit for applications on Cellular for a number of different reasons, these include:

- Support for Intermittent Devices
- Bindings for SMS and Triggering
- Binding for Cellular Non-IP data
- Exemplified using Cellular Identities

One of the key reasons why LwM2M works well is that it is fully standardised, making for a single design which creates efficiency for Mobile Device Manufacturers.

From a technical perspective, SIMs secure devices on cellular networks. This can be a hardware SIM card, similar to what is used in a mobile phone, but more commonly an eSIM that is integrated, or soldered into the device, or a software based SIM is used. Whichever form, cellular network devices have a secure identity. This document discusses the opportunity of re-using SIM-based credentials with LwM2M to bootstrap devices, which could reduce costs and expedite device on-boarding.

Removing the need to insert server specific information in devices is the focus of this work item.

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
OMA-WID-LwM2M_Device_Bootstrapping_in_Cellular_Networks-V1_0-20220621-A	21 Jun 2022	Status changed to Approved by DMSE WG

Table: A.1-1 Approved Version History