



# UL M2M SERVER SIMULATOR

## Who is it for?

UL M2M Server Simulator is essential for anyone in the mobile industry that wants to load eSIM profiles onto M2M IoT devices or need to determine a root cause for eSIM profile interoperability, but does not have a real SM-DP and SM-SR.

## Why do you need it?

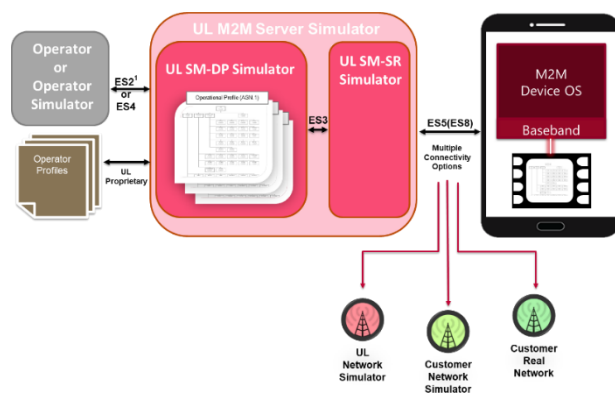
UL M2M Server Simulator loads eSIM profiles onto M2M IoT devices to verify that the device and the eUICC are interoperable compatible with the eSIM profile. It allows customers to quickly determine if there are issues with the device, the eSIM or the actual eSIM profile itself.

## What is inside?

UL M2M Server Simulator is an SM-DP and SM-SR simulator providing support for functions on GSMA ES5 and ES8 interfaces. ES3 is used internally by the tool but not exposed to the end user.

The tool provides a configurable set-up to load the SIMAlliance profile with your own custom DP.ECDSA and SR.ECDSA certificates and keys, or with test certificates and keys used in SGP.11. It also provides a templating engine that allows a profile template (or “dummy profile”) to be provided as input, and for an actual profile including the metadata to be output, containing specific values particular to each profile subscription, e.g. EF\_ICCID, EF\_IMSI, EF\_MSISDN, K-Key and OPC.

The UL M2M Server Simulator provides different connectivity options for transport of the ES5 and ES8 traffic; the UL Network Simulator, Customer Network Simulator or the real cellular network.



## Key benefits

- Eliminates the need to book test time on your real SM-DP and SM-SR platforms
- UL’s proprietary mechanism is used for loading SIMAlliance profiles into the tool
- Verification of ASN.1 syntax against different SIMAlliance eUICC Profile Package versions
- Load SIMAlliance profiles via RF Cellular connectivity on GSMA ES5 & ES8 interfaces
- Manage M2M eUICCs and profiles via GSMA ES5
- Support for SIMAlliance profile templates
- Support for custom certificates and keys
- Additional support for Refresh Profile, Set Fallback Profile and Audit eUICC procedures
- Quickly verify and evaluate interoperability between profiles, handsets and eSIMs
- Provides detailed logs for SCP80 & SCP81 via ES5 interface & SCP03t via ES8 interface
- Choose the connectivity option to match your requirements; UL Network Simulator, Customer Network Simulator or the real cellular network

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## Specifications

### OTA Interfaces

- ETSI TS 102 225 and 3GPP 31.115 for all connectivity options.
- ETSI TS 102 226 and 3GPP 31.116 for all connectivity options.

### GSMA Interfaces

- GSMA's ES5 interface to target the eUICC to perform Platform Management, eUICC Management Functions, eUICC Management and Function Notifications.
- GSMA's ES8 interface to download the profile.
- GSMA ES1, ES2<sup>1</sup> & ES4<sup>1</sup> equivalent functionality is provided by the tool, but GSMA defined functions on these interfaces are not currently supported.
- GSMA ES6 & ES7 is currently not supported.
- Support for the GSMA defined functions or procedures on ES1, ES2<sup>1</sup>, ES4<sup>1</sup>, ES6 & ES7 interfaces may be added in the future.

### Secure Channel support

- Support for SCP80, SCP81 and SCP03 via ES5 interface.
- Support for SCP03t via ES8 interface.

### SIMAlliance Interoperable Profile Format

- Full support of the SIMAlliance 'eUICC Profile Package: Interoperability Functional Requirements specification'.
- Verification of ASN.1 syntax for profile templates against different SIMAlliance eUICC Profile Package versions.

### Connectivity Options

Choose from one of the connectivity options and you can upgrade the tool to use the other options when you are ready at additional cost:

- If you choose the UL Network Simulator option, UL will direct you to our vendor partner where you can purchase a small fully functional 4G Network Simulator.
- If you choose your own network simulator option and it is supported by UL, UL will provide integration support to ensure that the UL Mobile Remote Card Profile Tester connects to your own network simulator.
- If you choose your own cellular network simulator option and the OTA platform is supported by UL, UL will provide integration support to ensure that the UL Mobile Remote Card Profile Tester connects to your OTA platform.

### Profile Templating Engine

- **Batch File**  
The profile templating engine is provided as a batch file.
- **Input File**  
Specify the input profile templates in DER format as either a binary file or a text file.
- **Output File**  
Specify output file(s) as binary or text files or a debug format (showing the ASN.1 format) containing the profile in DER format.
- **SIMAlliance Profile Template Types**  
Supports both SIMAlliance file system templates and generic file management.
- **Key Parameter File(s)**  
Specify the following optional keys specific for each profile subscription to be applied to the input profile to generate specific output files (individual profiles and associated metadata): EF\_ICCID, EF\_IMSI, EF\_MSISDN, K-Key and OPC.

### M2M Procedures

- **GSMA Procedures**
  - o Profile Download and Installation (ISD-P Creation, Key Establishment with Scenario#3-Mutual Authentication, Download and Installation of the Profile).
  - o Profile Enabling.
  - o Profile Disabling.
  - o Profile and ISD-P Deletion.
  - o Default Notification Procedure using SMS & HTTPS.
  - o Fall-Back Activation Procedure.
- **UL Procedures**
  - o Refresh Profile and Audit eUICC.

### Hardware

- The UL Network Simulator connectivity option requires that the customer purchases a low cost Network Simulator from one of our partners.



For your sales enquiries, please contact us at [insecurity@ul.com](mailto:insecurity@ul.com), visit [ims.ul.com](http://ims.ul.com), or contact one of our resellers.

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