UL M2M Server Simulator

Overview of UL M2M Server Simulator

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

Benefits

UL M2M Server Simulator loads eSIM profiles onto M2M IoT devices to verify that the device and the eUICC can interoperate with the eSIM profile(s). It allows customers to quickly identify issues with the IoT device, the eSIM or the eSIM profile itself.

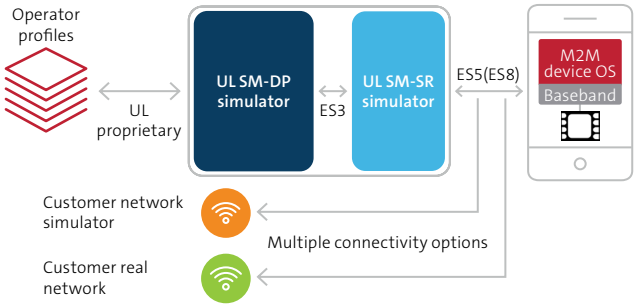
Features

UL M2M Server Simulator is an SM-DP and SM-SR simulator providing support for functions on GSMA ES5 and ES8 interfaces. The tool uses ES3 internally but does not expose it to the end user.

The tool provides a configurable setup to load the Trusted Connectivity Alliance (TCA) eUICC profile with your 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 you to provide a profile template — or "dummy profile" as input and generate a profile containing specific values particular to a range of profile subscriptions, e.g., via EF_ICCID, EF_IMSI, EF_MSISDN, K-Key and OPC.

The UL M2M Server Simulator provides different connectivity options for transporting ES5 and ES8 traffic via network simulator or real cellular network.

UL M2M Server Simulator



Key benefits

- Eliminates the need to book test time on your real SM-DP and SM-SR platforms
- UL's proprietary mechanism loads TCA eUICC profiles into the tool
- ASN.1 syntax verification against different TCA eUICC Profile Package versions
- Load TCA eUICC profiles via RF cellular connectivity on GSMA ES5 and ES8 interfaces
- Manage M2M eUICCs and profiles via GSMA ES5
- Support for TCA eUICC Profile Package templates
- Support for custom certificates and keys
- Additional support for reading out installed profiles, the Fall-Back Attribute Management procedure and auditing the eUICC
- Quickly verify and evaluate interoperability between profiles, handsets and eSIMs
- Provides detailed logs for SCP80 and SCP81 via ES5 interface and SCP03t via ES8 interface
- Choose the connectivity option to match your requirements; network simulator or the real cellular network

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 ES5 interface to target the eUICC to perform Platform Management, eUICC Management functions, and eUICC Management and function notifications
- GSMA ES8 interface for profile download
- Provides GSMA ES1, ES2 and ES4 equivalent functionality but not the GSMA-defined functions at this time
- GSMA ES6 and ES7 are currently not supported
- May support GSMA-defined functions or procedures on ES1, ES2, ES4, ES6 and ES7 interfaces in the future

Secure channel support

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

Trusted Connectivity Alliance (TCA) eUICC Profile Package Interoperable Format

- Full support of the TCA eUICC Profile Package: Interoperable Technical specification
- Verification of ASN.1 syntax for profile templates against different TCA eUICC Profile Package versions

Connectivity options

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

- If you do not have a network simulator, our experts will direct you to our vendor partner where you can purchase a low cost, but fully functional 3G-5G network simulator.
- If you choose your own network simulator option and UL can support it, our experts will provide integration support to help ensure that the UL M2M Server Simulator connects to your network simulator.
- If you choose your own cellular network option and UL can support the OTA platform, our experts will provide integration support to ensure that the UL M2M Server

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 or 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.
- **TCA eUICC Profile Package Template types**
  Supports both TCA file system templates and generic file management.
- **Key parameter file(s)**
  Specify the following optional keys specific to each profile subscription to be applied to the input profile to generate the range of particular output files as individual profiles and associated metadata: EF_ICCID, EF_IMSI, EF_MSISDN, K-Key and OPC.

M2M Procedures

- **GSMA procedures**
  - Profile Download and Installation (ISD-P Creation, Key Establishment with Scenario#3-Mutual Authentication, Download and Installation of the profile)
  - Profile Enabling
  - Profile Disabling
  - Profile and ISD-P Deletion
  - Default Notification procedure using SMS and HTTPS
  - Fall-Back Activation procedure
- **UL's procedures**
  - Refresh profile (read out profiles) and audit eUICC

Hardware

No proprietary UL hardware is required, but UL M2M Server Simulator runs against a network simulator or can interface with the cellular network infrastructure (OTA platform) — both of which the customer provides.

For more information, visit UL.com/m2mss.

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