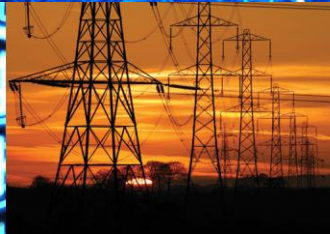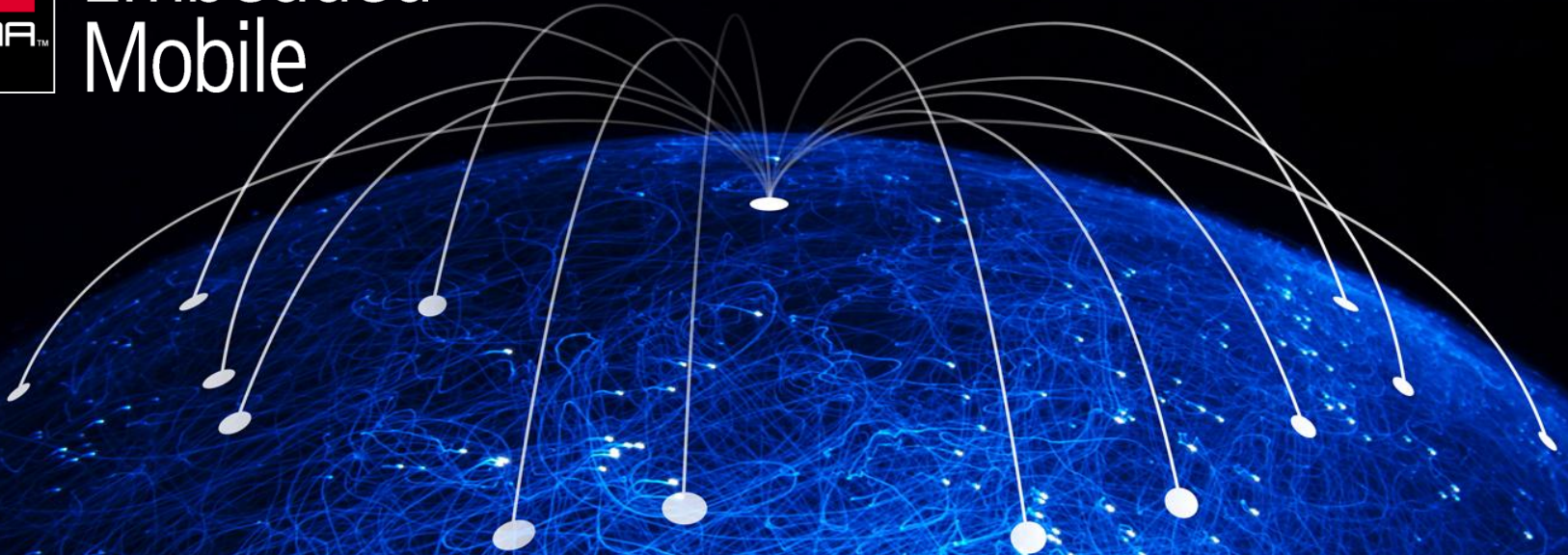# GSMA Embedded SIM – MWC14
Ian Pannell – Chief Engineer GSMA

Accelerating growth and operational efficiency in the M2M world

Introducing the GSMA Embedded SIM

The GSMA Embedded SIM has been developed to promote a common global remote provisioning architecture for the new era of machine to machine technology.

Backed by the world's largest mobile providers and endorsed by the world's largest SIM suppliers, this is a technical specification that will enable 'over the air' installation and management of operator profiles.
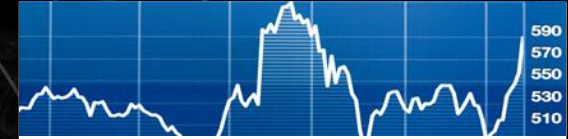
This specification will accelerate the M2M market and increase opportunities for operators and M2M customers around the globe by reducing costs and improving flexibility and efficiency as it drives the economies of scale.
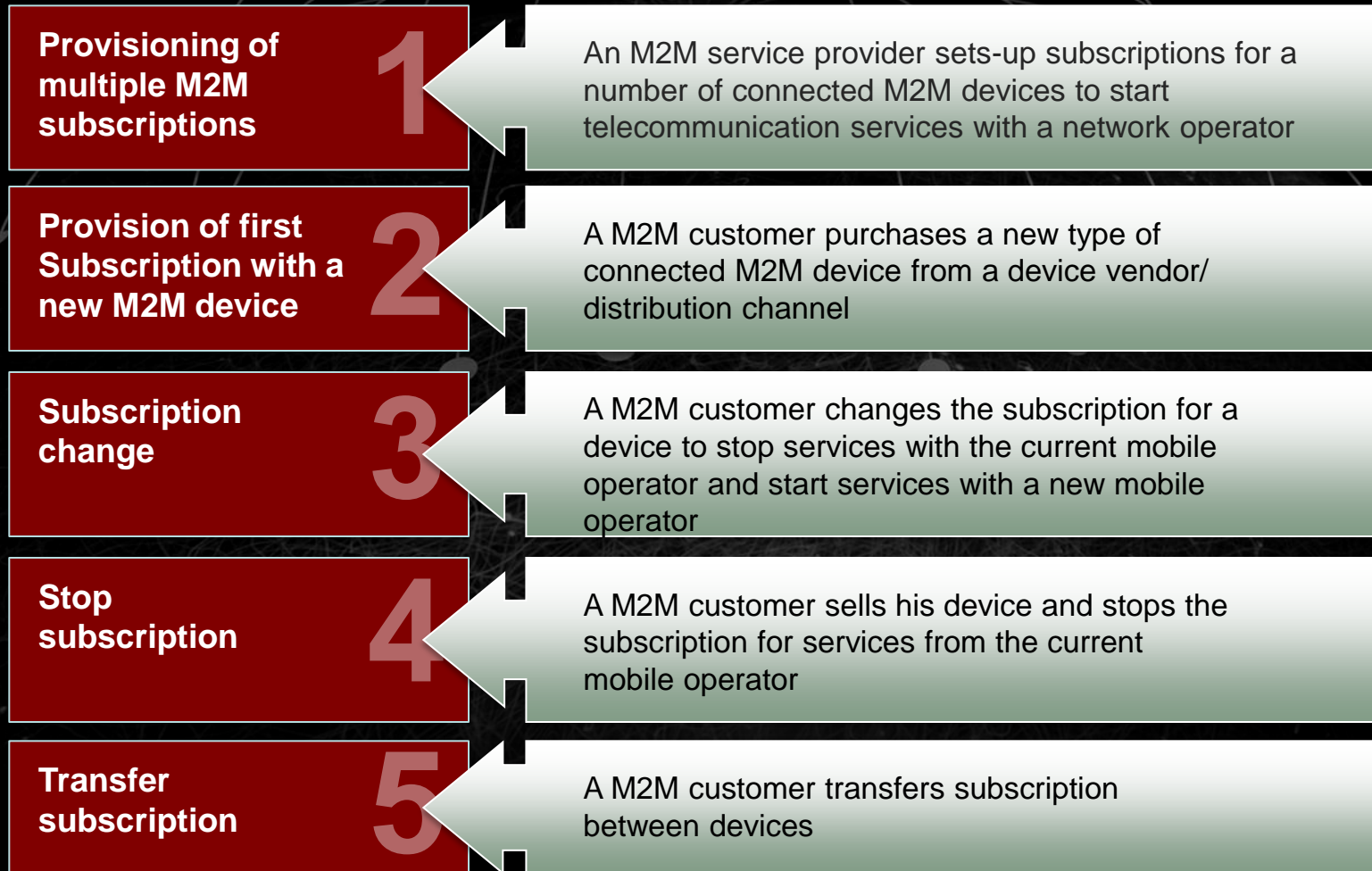
Broad industry support

- GSMA is working in partnership with leading mobile operators and SIM suppliers worldwide. Specification supported by:

Uses of Embedded SIM Specification

GSMA

Provisioning of multiple M2M subscriptions `1`	An M2M service provider sets-up subscriptions for a number of connected M2M devices to start telecommunication services with a network operator
Provision of first Subscription with a new M2M device `2`	A M2M customer purchases a new type of connected M2M device from a device vendor/ distribution channel
Subscription change `3`	A M2M customer changes the subscription for a device to stop services with the current mobile operator and start services with a new mobile operator
Stop subscription `4`	A M2M customer sells his device and stops the subscription for services from the current mobile operator
Transfer subscription `5`	A M2M customer transfers subscription between devices

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The Elements Involved

Embedded SIM

- Functionally identical to a traditional SIM

- At manufacture will have a 'provisioning profile' assigned with secret keys that allows the associated subscription manager to download and manage 'operational profiles' on the eUICC

- The technical specification can accommodate both an initial declaration of the MNO in the eUICC, as well as the selection of a new MNO later. The implementation will depend upon the commercial agreement between the operators and their customers
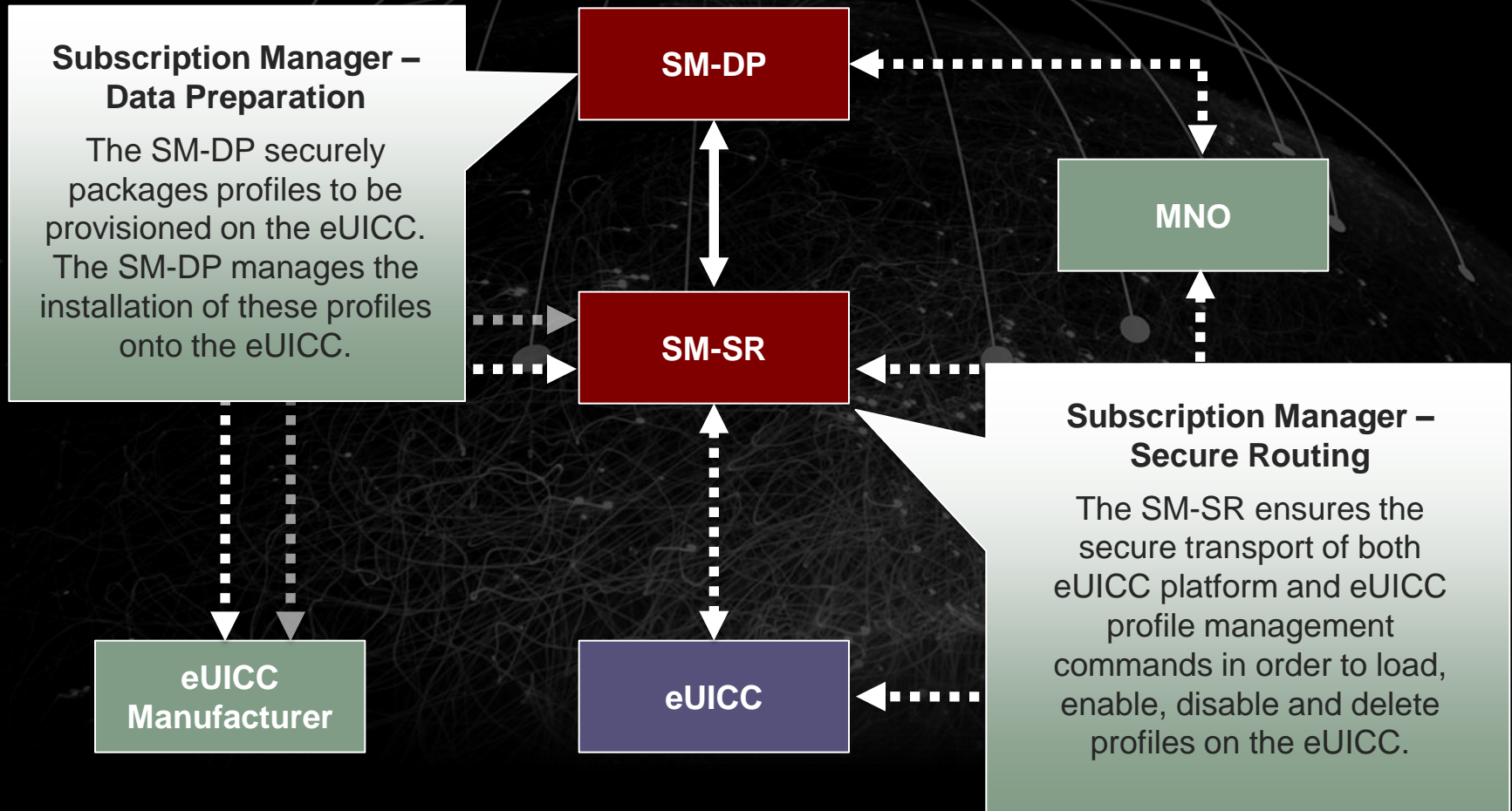
Subscription Manager

Manages the embedded SIM by
- Generating SIM profiles in real-time

- Management and execution of MNO policy

- Secure routing profiles to the embedded SIM

MNO

- Uses subscription manager to manage profiles

- Maximum re-use of existing provisioning interfaces and processes

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Embedded SIM Basic Architecture

Subscription Manager – Data Preparation

The SM-DP securely packages profiles to be provisioned on the eUICC. The SM-DP manages the installation of these profiles onto the eUICC.

SM-DP

SM-SR

MNO

eUICC Manufacturer

eUICC

Subscription Manager – Secure Routing

The SM-SR ensures the secure transport of both eUICC platform and eUICC profile management commands in order to load, enable, disable and delete profiles on the eUICC.

Embedded SIM – A change in SIM Life-cycle Model

From the linear model used today….

| Manufacture SIM | Select MNO | Personalise | Distribution | SIM Activation | Usage | End of Life |

Pre-Issuance   **Post-Issuance**

To an outcome based model with repeat provisioning ….

| Manufacture SIM | Basic Personalisation (Provisioning Profile) | Distribution |

- Personalise (Operational Profile)
- Select / Change MNO
- Usage
- End of Subscription

Pre-Issuance   **Post-Issuance**

GSMA Embedded SIM – Essential benefits

- Accelerating the market growth of Machine to Machine (M2M)
- Increasing operational efficiency for the M2M ecosystem
- Enabling remote or 'over the air' installation and management of operator profiles
- Cutting operational and physical logistics costs
    - No need to ship physical SIMs
    - No need to change physical SIM for entire product lifetime
- Enables new business models
- Preventing market fragmentation by avoiding different, incompatible technical solutions
- Driving economies of scale within the M2M industry

Global Compatibility

- The GSMA goal is to grow the M2M Industry and put a standard Embedded SIM at the centre of that growth
- Different, incompatible technical implementations of Embedded SIM will stifle growth
- One global Embedded SIM specification will avoid market fragmentation and drive economies of scale for all stakeholders
- Supports development of strong, global M2M ecosystem unifying operators, SIM suppliers and vendor partners

Accelerating growth and operational efficiency in the M2M world

Questions?