HGI Presentation to OneM2M

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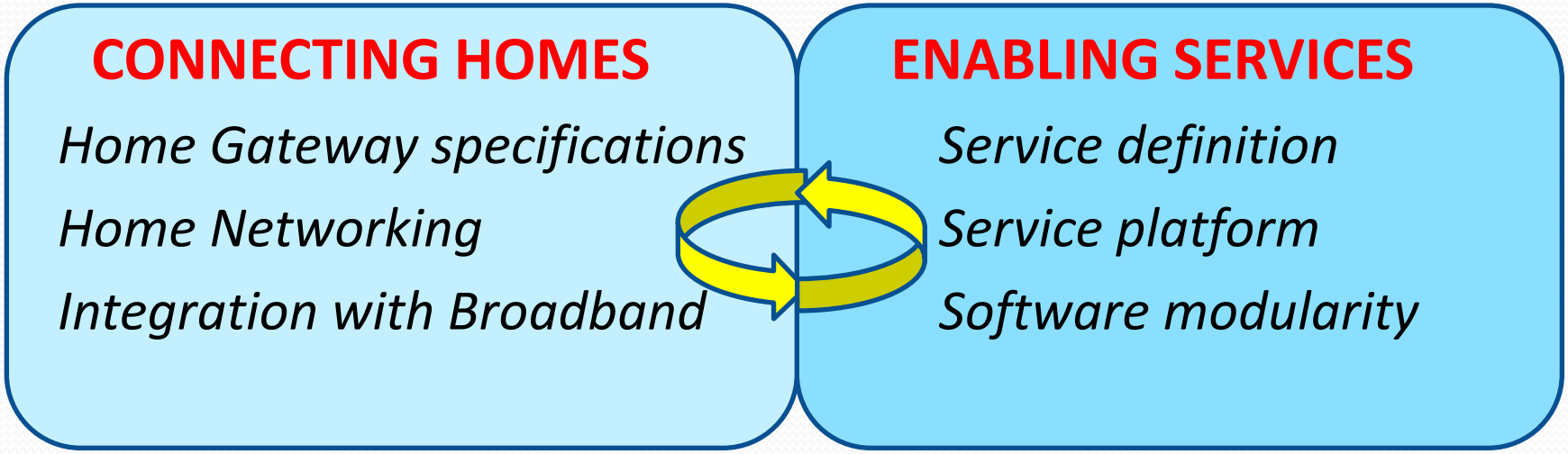
HGI

CONNECTING HOMES, ENABLING SERVICES

What is the HGI ?

Broadband Service Providers (BSPs), device vendors and technology suppliers working together to create an ecosystem for the broadband digital home

Two focus areas




Home Gateway Initiative
actility
Making Things Smart
ADB
Alcatel·Lucent
arcadyan
ARM
belgacom
Bouygues Telecom
BROADCOM
BROADLIGHT
BT
CAVIUM
Celeno
Wireless Communications
CISCO
Deutsche Telekom
devolo
dialog
SEMICONDUCTOR
D-Link
Building Networks for People
DSP GROUP
ECE PARIS
ÉCOLE D'INGÉNIEURS
eflow
ERICSSON
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TRANSWITCH
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vtech
WIND RIVER
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ZyXEL
Unleash Networking Power
ZARLINK
SEMICONDUCTOR

Liaison Partners & Cooperators

CECED Smart Grid Group

Energy@Home

… And others

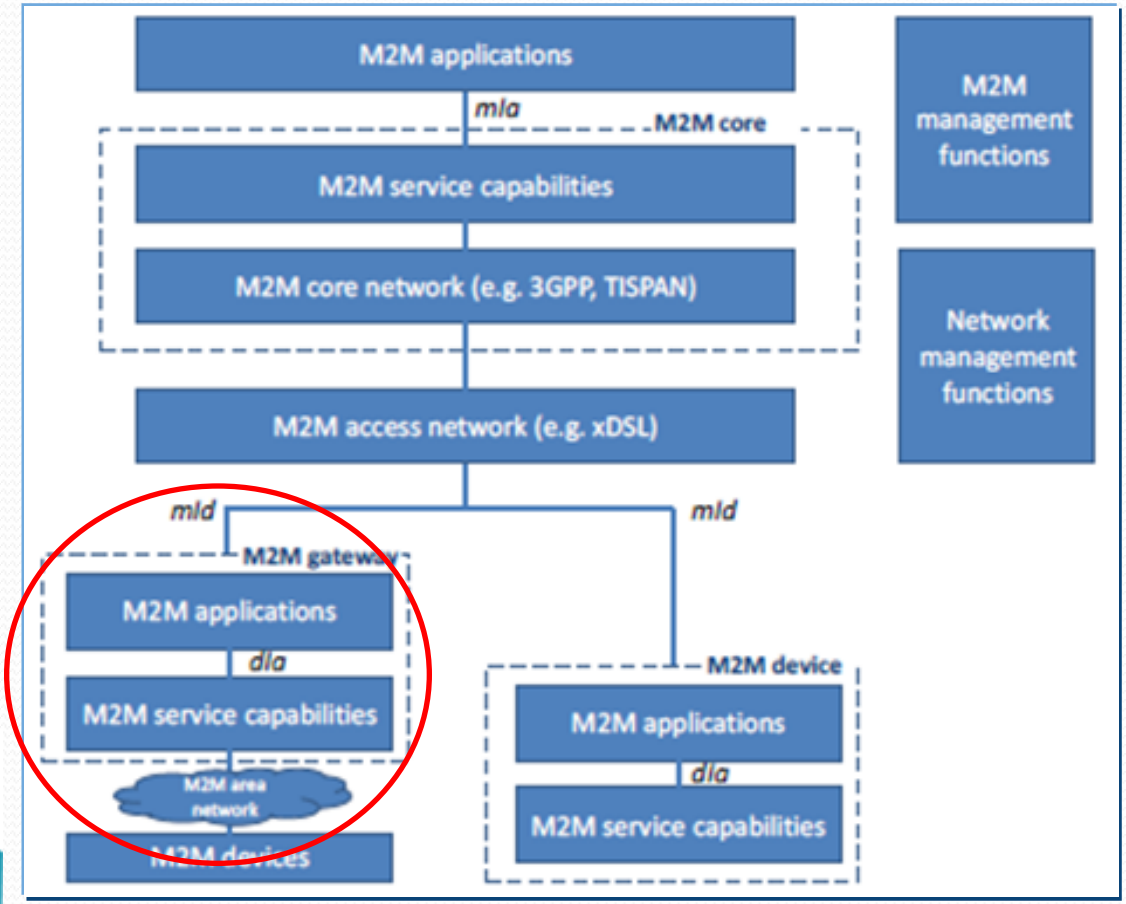
HGI's Smart Home TF

- Smart home services of interest to the Broadband Service Providers
- Home Gateway feature/software architecture requirements
- HG SWEX (software execution environment) specification
- Service use cases addressed so far
  - Ambient Assisted Living
  - Alarms
  - Home Energy Management
  - Comfort
  - NG Communications
- Test requirements for the HG Test Plan

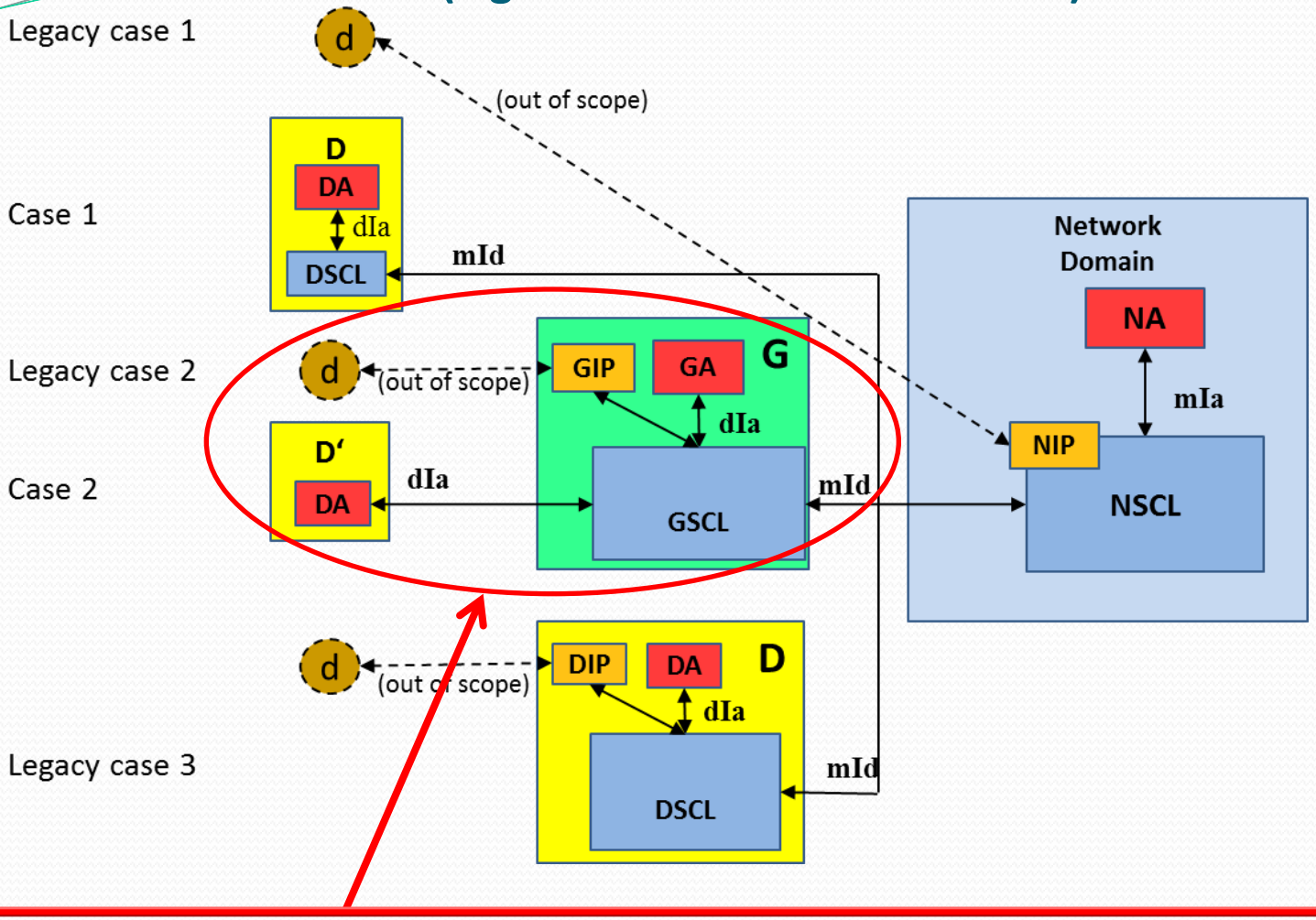
Already published HGI-GD017 HEM Architecture & Use Cases

➔ Help drive cooperation with ETSI M2M, OneM2M, BBF, and other external partners to unify the smart home architecture

The Home Gateway as an instantiation of an M2M Gateway for the Home



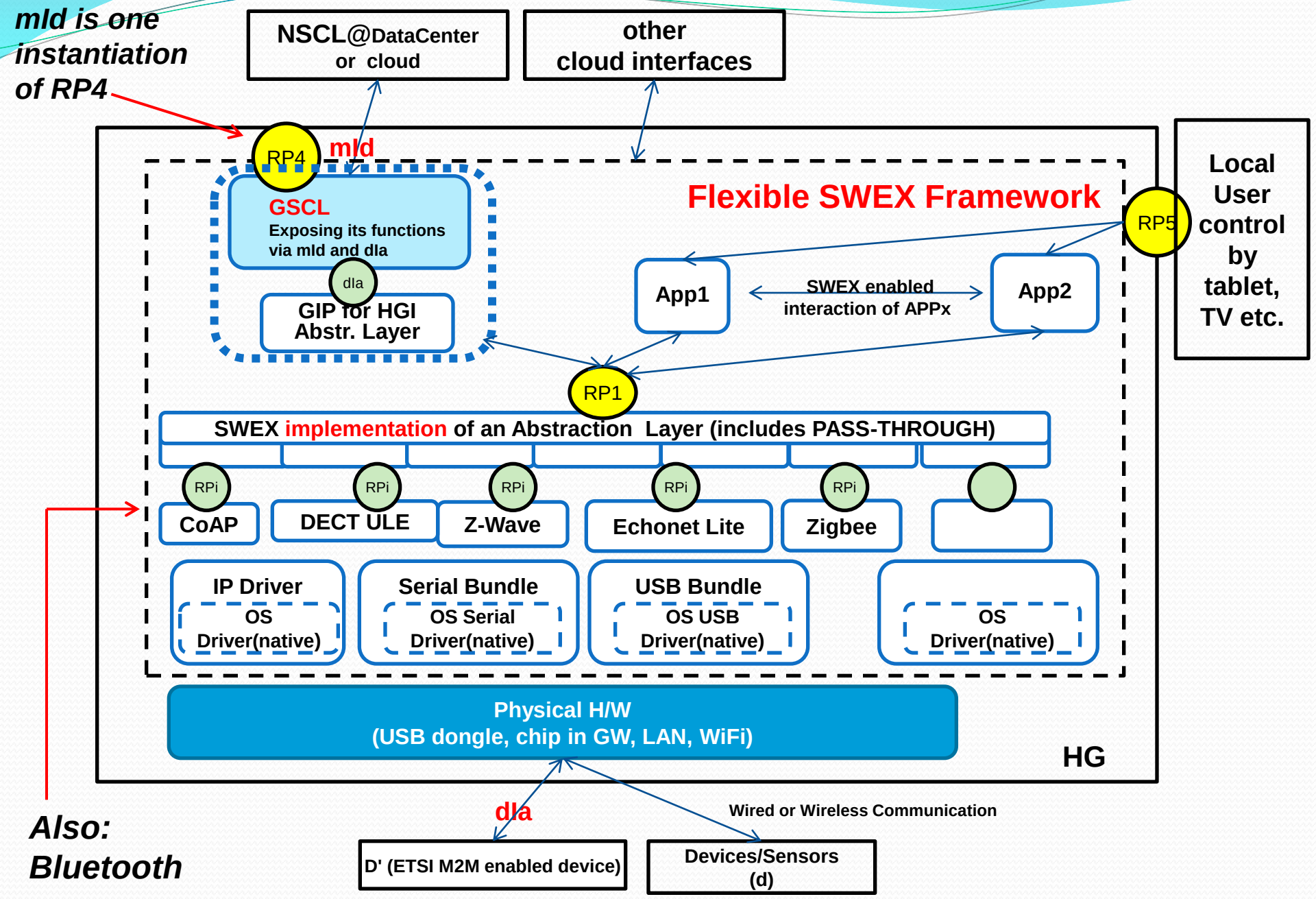
ETSI M2M Mapping of reference points to different deployment scenarios (Fig6.1 of TS102690 Rel1 v1.1.6)



HGI focus areas

1. Overall home architecture for smart home services, including M2M aspects
2. Applications on the SWEX-Enabled HG
3. Integration of the SWEX-enabled HG within the M2M framework

First take on software blocks for SH GW



SWEX Framework

- SWEX framework (based on OSGi) provides key attributes to allow local applications to be run
  - Life cycle management
  - Modularisation
  - Resource sharing
  - Security
  - Reuseability
  - Flexibility
  - Logging
  - Configuration Management

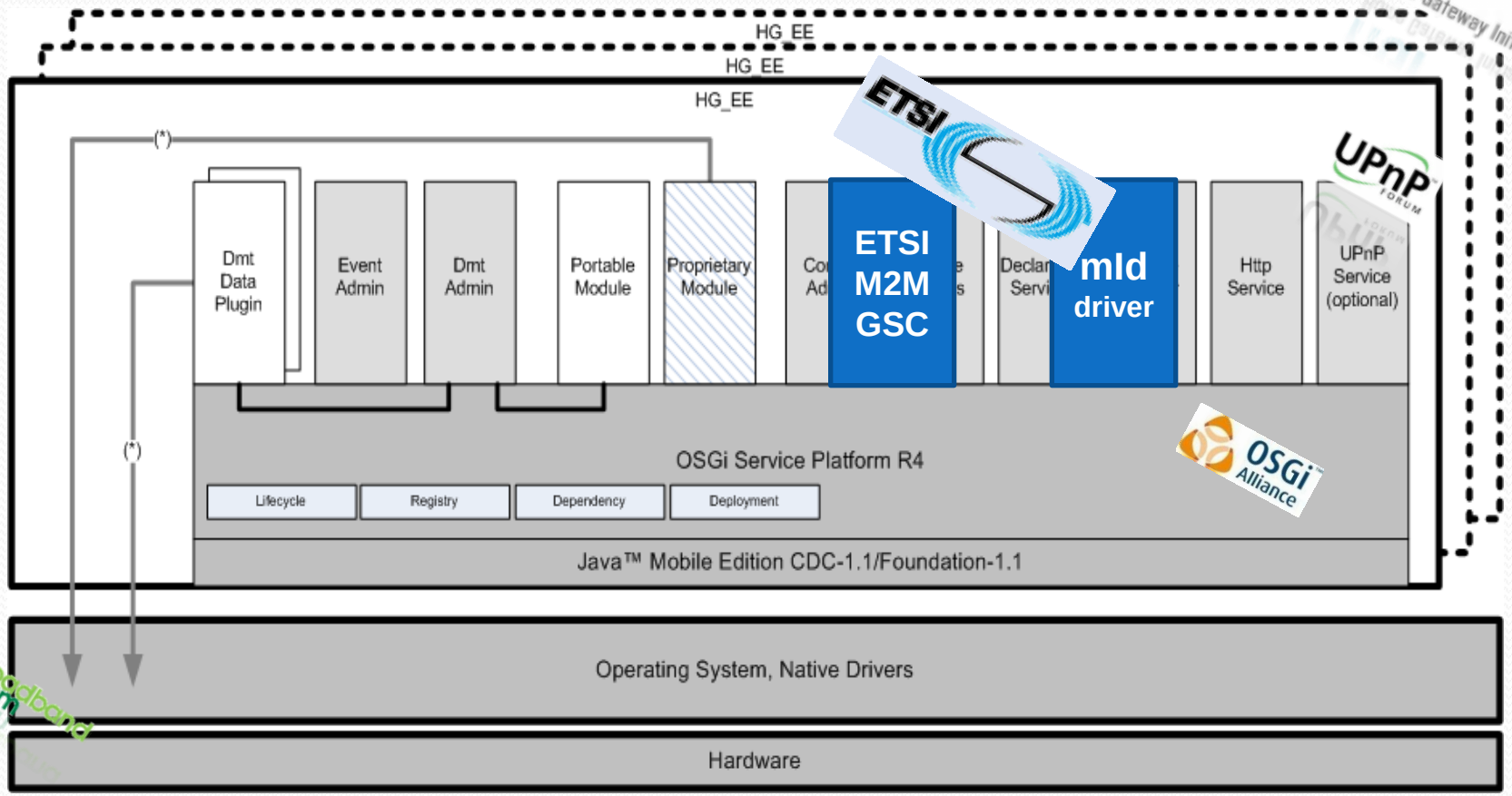
HGI Activities

- Generic requirements for SWEX
- OSGi-specific requirements
- HG hardware and software requirements
- HG Test Event

Home Gateway Initiative

Presented at Berlin OneM2M meeting Dec 2011

Possible implementation of M2M functional blocks in SWEX environment.



HG Abstraction Layer

- Implemented in the SWEX framework
- Used by local applications to address HAN connected devices without awareness of technology-specific details
- Can also be used by M2M framework to address these devices
- Top level
  - Generic commands available to applications
  - Common data model
- Bottom level
  - technology specific semantic/data model
- Pass-through
  - Direct access to technology specific semantics

HGI Activities

- Currently exploring best approach and detailed requirements for the abstraction layer
- Coordination with liaison partners

HGI view on possible use of M2M GSCL & GIP

- Gateway Interworking Proxy for HGI abstraction layer:
  - Connects M2M to HGI abstraction layer
- Gateway Service Capability Layer
- Assumptions
  - Defined by ETSI M2M/ OneM2M
  - GSCL will store/mirror state of connected devices
  - May run as a module within the SWEX framework, or in native code
  - Advantages for module approach:
    - Existing OSGi gateways can be upgraded to M2M
    - Easy to enhance
    - Portability between devices from different vendors

HGI Activities

- Coordinate with liaison partners and OneM2M
- Exploring interface to abstraction layer
- Assessing pros and cons of OSGi module approach for GSCL & GIP

Questions

- Which current or planned activities on abstraction layer definition within or outside OneM2M, should HGI engage with?
- What plans may OneM2M have regarding requirements for modularity on the OneM2M gateway?
  - HGI is willing to assist by contributing SWEX requirements.
- dIa
  - Implementable in java?
  - Device detection, authentication/pairing functions for dIa
  - How to approach integration of dIa devices
- Interest in HGI HG Test Programme as a vehicle for early industry testing of HG-located M2M functions?

Next Steps

- HGI is moving quite fast with its reference architecture definition for Home Gateway, and welcomes technical dialogue with OneM2M and liaison partners
- Next HGI meeting in Heidelberg, September 11-14
- OneM2M TP#01 Sep 24-28 in Nice
- HGI 2012 Test Event, November-December, 2012