



Connected Living

Future IoT Networks



Billing and Charging Capability

During 2014, the GSMA undertook billing and charging capability analysis as part of the Connected Living Programme's Future IoT Networks project. In February 2015, the GSMA published the *Billing and Charging for IoT and M2M* white paper (CLP.08 CLP Billing and Charging Analysis v1.0.doc), which reviewed emerging billing and charging use cases within the IoT and M2M sectors. The paper identified the mobile operations and business support system (OSS and BSS) capabilities required to support these use cases and considered innovative business models for the IoT and M2M sectors.

Emerging demand for billing and charging capabilities

Billing and charging refers to a wide range of mobile network operator (MNO) capabilities, including charging, management of multiple revenue streams, account management, payment and collection, customer care, and invoicing.

The complexity of future IoT systems is likely to fuel demand for MNOs' billing services, which are supported by MNOs' existing financial, billing and marketing relationships with consumer and enterprise customers.

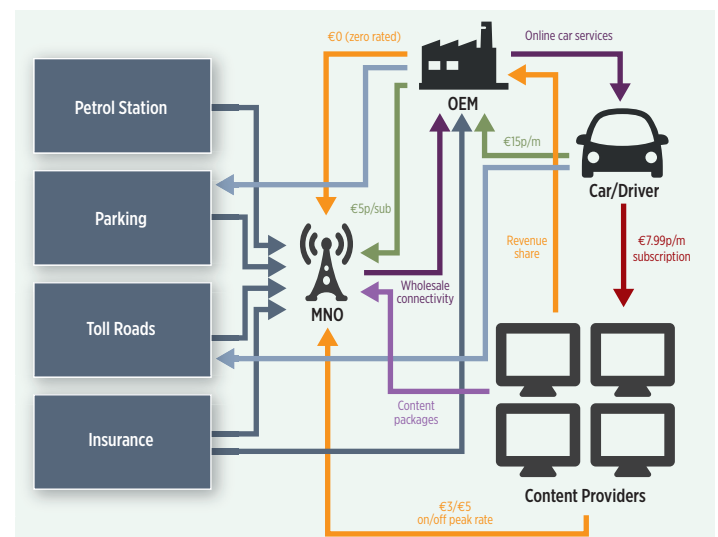
In the smartphone sector and the mobile industry, in general, there is now a well-established and complex network of service and content provider relations. Similarly in the M2M sector, a proliferation of revenue and content streams is leading to more complex billing, settlement and fund clearance requirements.

New business models with different structures that require billing are emerging to support the development of the IoT. Although most connected devices today are sold for a one-off charge, with few generating recurring or ad-hoc service revenue, this is likely to change as the IoT grows, creating an opportunity for billing service providers. Few IoT companies have billing capabilities in-house.

MNO value proposition for IoT billing and charging

Given the complexity of the IoT, billing systems will need to offer a flexible service that enables new charging structures to be introduced quickly (see Figure 1).

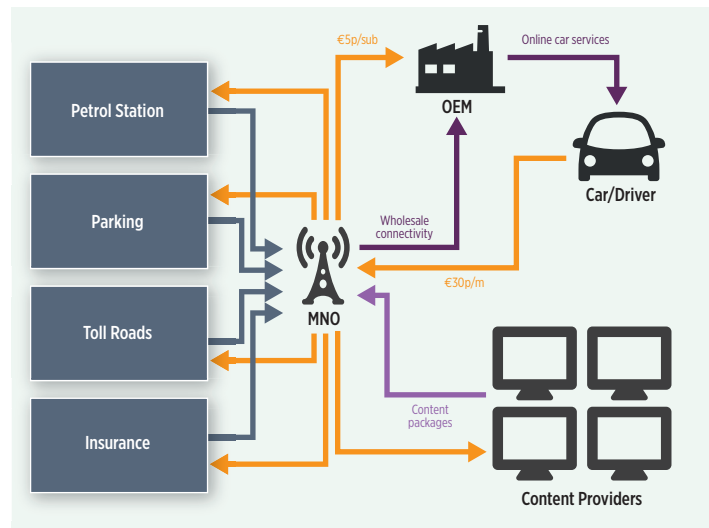
FIGURE 1: EXAMPLE OF COMPLEX SETTLEMENTS



Source: Amdocs

MNOs are well placed to consolidate different revenue streams and become the central hub to provide settlement services to various IoT stakeholders, including service and content providers and other third parties, as illustrated in Figure 2 below.

FIGURE 2: CONSOLIDATION OF ALL SETTLEMENTS TO MNO



Source: Amdocs



Next steps

The GSMA Interoperability, Data specifications and Settlement Working Group (IDS), and the Wholesale Agreements and Solutions Working Group (WAS) are defining the billing and charging principles for IoT and M2M scenarios.

For further information, please get in touch with the GSMA's Future IoT Networks team at connectedliving@gsma.com

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