

Fact sheet: metering communications

This factsheet explains the key metering communication concepts used in the framework for open access and common communication standards review.

Introduction

The AEMC was requested by the Standing Council on Energy and Resources (SCER) to provide advice on a framework for open access and common communication standards.

The framework is to support contestability in demand side participation (DSP) services and other services enabled by smart meters. Our draft report was published on 19 December 2013.

This factsheet provides information on technical concepts used throughout that report. A glossary is also provided in the report.

Access spectrum vs interoperability spectrum

Having “access” to smart meters and the smart metering communication network can mean different things to different people. For the purpose of analysis, we have considered a technical framework based on the concepts of the access spectrum and the interoperability spectrum.

The access spectrum relates to the smart meter functionality that may be used by an authorised party. The interoperability spectrum concerns the degree to which each smart meter and an authorised party’s system can work together. In the draft report we also use the term ‘accredited party’ to mean a party that is authorised to access the smart meter.

‘Smart Meter Provider’

Smart meters are likely to be accessed by multiple parties such as distributors, retailers, and other energy service providers.

Someone will be required to manage the point of access to make sure, among other things, only authorised people can gain access and messages are able to get to the smart meter within a reasonable timeframe. For the purpose of analysis, the role of a ‘Smart Meter Provider’ (SMP) has been created to undertake these access management functions. An SMP is not currently a defined term used in the market. Further consideration is required about whether such a new market participant should be created or whether the functions would be carried out by an existing entity.

Point of entry and level of access

For the SMP to manage access to smart meters, we need to consider how to characterise the point in the smart meter communication system at which the access is provided. We have called this the point of entry, which is the point along the communication path where the ability to access a smart meter’s functions is managed or restricted. The SMP will only allow access at the point of entry to those parties who are authorised. Once access is granted, the types of functions a party is able to use is referred to as the level of access.

The AEMC's Power of Choice review recommended new rules to encourage commercial investment in new technology like smart meters.

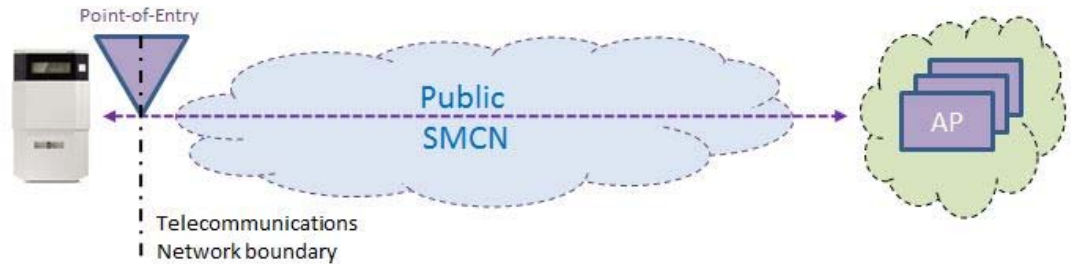
Smart meters enable flexible pricing and other services so that consumers have more choices in managing their electricity bills.

This review is recommending changes to implement part of the Power of Choice reform program.

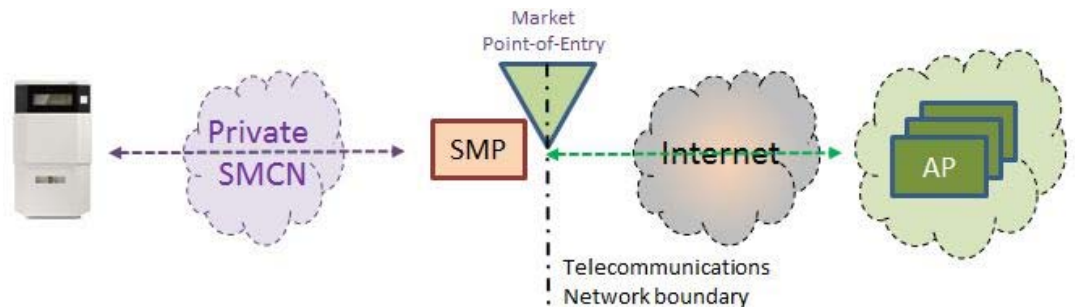
Metering communications architecture

Currently under the National Electricity Rules (NER), there are two communication architectures defined for meters. The communication architectures describe the acceptable ways in which market participants can communicate with metering installations. Either of the communication architectures currently described may also be applied to smart meters:

- direct access to the meter where the 'point of entry' is at the meter



- market entry point where the point of entry is away from the meter



SMCN: Smart meter communication network

AP: Authorised party or accredited party

SMP: Smart metering provider

End to end connectivity

Whether or not a party can utilise the functionality of smart meters not only depends on whether it has 'access' to the smart meter, it also depends on whether the party has the right software applications installed. End to end connectivity refers to the ability of an authorised party to access and use functionality within a smart meter.

To achieve end to end connectivity the authorised party must have an application (i.e. software) that is able to communicate with the software installed in the smart meter. If the authorised party and the smart meter use software based on the same standard (or 'protocol'), end to end connectivity could more easily be achieved. If the software were based on different standards, a translator could be provided by the SMP as a means of facilitating the communication. In the case where a protocol translator does not support a function, access would not be possible even if the functionality is supported by both the authorised party and the smart meter.

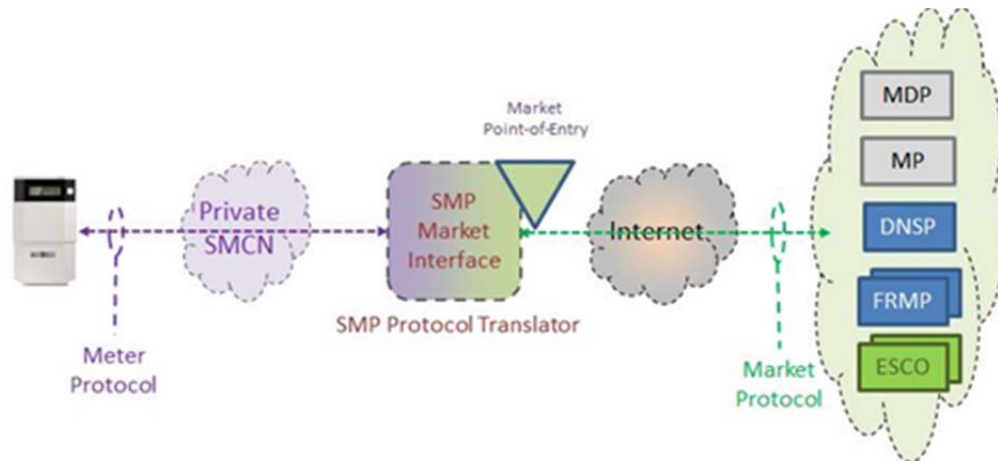
Two types of communication standards are being considered by this review – meter protocols and market protocols.

Communication standards – meter protocols and market protocols

There are two types of communication standards being considered under this review – meter protocols and market protocols, which relate to the software used at either end of the communication path between the authorised parties and the smart meter.

The meter protocol defines the interface standards between the application in the smart meter and the smart meter communications network (SMCN).

The market protocol defines the interface standards at the authorised party's application.



- SMCN: Smart meter communication network
- SMP: Smart metering provider
- MDP: Metering data provider
- MP: Metering provider
- DNSP: Distribution network service provider
- FRMP: Financially responsible market participant
- ESCO: Energy service company

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