

Ensuring systems and devices are fully interoperable from day one holds the key to the success of the smart metering programme, says

Tim Lovejoy

Lack of clarity will force the DCC to fund an additional layer of integration

The Department of Energy and Climate Change (Decc) may have fired the starting gun for the UK's smart metering rollout, but with numerous questions about standards still unanswered, key stakeholders are nervous about how fast they can start running towards the finish line. With so many participants playing a part at different stages of the rollout, it is essential to define how they interrelate and at what points along the track. The interoperability of systems and devices will be a driving factor in determining the success of this ambitious programme.

If consumers are to change their energy consumption behaviours, a high level of engagement and positive experience with the smart metering programme needs to be in place from day one. In-home displays that translate readings into actionable information are a foundation for triggering a new sense of energy efficiency awareness. As competition flourishes, smart meters will be accompanied by a proliferation of add-on tools and services designed to encourage consumers to take concrete steps towards changing their energy consumption patterns.

Innovation on this scale requires an environment in which opportunity is open to a wide market, and that requires a clear set of standard interfaces to plug into. It is essential that each of the offerings created for the connected home of the future is able to communicate with others in a home area network, and that this in turn is able to exchange data freely with the smart meter.

For customers it is vital that the smart metering infrastructure makes it easier – not more difficult – to switch supplier. Once again a coherent set of standards is essential to ensure that customers do not become trapped in a proprietary system.

Looking deeper into the end-to-end service structure, customer experience will be shaped by where interoperability points are set. Maintaining the flexibility to update meters with new functionality remotely will minimise disruption for the customer. On the other hand, concentrating all intelligence and control in the smart meter will oblige customers to accommodate more frequent visits to their home from field engineers who need direct access to the meter point.

While mass rollout of smart meters is not scheduled to begin until the second quarter of 2014, the logistics and planning for such an exercise need to be put in place much earlier. Ambiguity around the standards that govern inter-



operability across the end-to-end smart metering process not only put the brakes on this preparation phase but also have a long-term impact on the success of the UK programme.

The more precise the standards announced by the Decc working groups this month (June), the clearer the decision criteria for utilities in their choice of smart metering solution. Nonetheless, every energy supplier wants to see the knowledge and capital it invests in an interim solution carried over into its national rollout plans.

As a result, there is pressure to set interoperability standards that ease the continuity of present investments into a future smart metering landscape. Setting interoperability at a point that minimises the cost and complexity of compliance with the final framework has become a chief concern.

In the search for a compromise, however, the industry needs to come together to recognise that how interoperability standards are defined today should not just address short-term cost protection. They also need to safeguard the industry against the longer-term costs of upgrading the smart meter network to incorporate smart grid capability.

Interoperability issues are just as prevalent at the head-end where data collected through smart meters is passed on to individual providers. Although the Data and Communications Company (DCC) is set to procure a range of services on behalf of the industry, a clear interface

that sets out a common language and format for all data has not yet been set. The key to generating a healthy level of competition for the tenders that will be put out by Decc next year will be the accompanying standards. Lack of clarity will force the DCC – and by consequence the taxpayer – to fund an additional layer of integration, which could so easily have been avoided.

Across any industry you care to mention, chief information officers are faced with the headache of trying to pick through complex legacy systems to introduce business change. Years of welding together disparate systems has taught the IT world painful lessons that badly need to be taken on board for a programme as bold and extensive as the UK's smart metering rollout.

With every translation between systems, the opportunity for errors in data increases. It runs an exact parallel with the greater likelihood of misunderstanding between colleagues and business partners who speak another language. The issue is not simply confined to the cost of finding an adequate interpreter but spreads to include the wider impact of acting on the wrong information.

Similarly, it is wise to reflect on the lessons learned from the maturity life-cycle of technologies. Industrial strength stability of IT platforms is not achieved in the test lab. Time and again, early

launches of new technologies are punctuated with pauses to develop patches and adaptations that can rectify unforeseen problems. The mass delivery of Wi-Fi technology, for instance, has not been smooth. It has taken ten years for this technology to arrive at a level of quality most businesses can deploy with confidence.

What are our chances of managing patches and technical teething problems in a system that affects 27 million homes? Protocols for transmitting the deluge of data that will come on stream with a full-scale smart metering rollout need to be water-tight. Building on the strength of data exchange standards that have supported other highly secure and demanding environments, such as the payments industry, will reduce the risk of smart metering and smart grid implementation.

While standards are well understood to be a prerequisite for rollout, a catalogue of disparate and rigid technical specifications could lead us into a false start for smart metering. Designing interfaces that connect the end-to-end smart metering process requires collaboration at a higher level. Together we need to strike a balance between clarity and cost efficiencies in the short term and providing the flexibility for future innovation over the longer term. The framework for interoperability will set the tone for Britain's smart energy transformation. ●

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