



SMART METERING IMPLEMENTATION
PROGRAMME: STATEMENT OF DESIGN
REQUIREMENTS RESPONSES TO:

Ofgem

September 28, 2010



OFGEM Smart Metering Implementation Consultation Response and Questions

The following responses are on behalf of Trilliant, Inc. The answers were a collaborative effort with Trilliant's executive management and technical team working on the Centrica deployment.

About Trilliant

Trilliant provides hardware, software, and service solutions that deliver on the smart metering and Smart Grid communication solutions to utilities and their customers worldwide. Trilliant's solutions drive improved energy efficiency, grid reliability, lower operating cost, and integration of renewable energy resources. Since its original founding in 1985, Trilliant has been a leading innovator in the delivery and implementation of energy management systems, including advanced utility wireless data collection for residential and commercial customers, demand response, time-of-use billing, and critical peak pricing initiatives. Trilliant currently has more than 200 utility customers worldwide with over 1.5 million deployed Smart endpoints including Centrica where Trilliant provides the enterprise head-end software system in support of the British Gas Smart Programme.

Statement of Design Requirements (Due 28 September 2010)

CHAPTER 3

Question 1: Should the HAN hardware be exchangeable without the need to exchange the meter?

Yes, Trilliant agrees that the HAN hardware should be interchangeable without exchanging the meter, though there will need to be provisions to assure security is maintained upon device exchange and re-binding to the customer meter.

Question 2: Are suitable HAN technologies available that meet the functional requirements?

Trilliant believes the firmware size figures quoted may understate some devices including electric meters, displays, and the communication hub, which may have 1-3MB of firmware each.

Where time intervals are mentioned for communication, the figures quoted are feasible for individual communications between the head-end system and the device. Mass distributions of messages, tariff updates, and firmware may take considerably longer pending server and network capacity. It should also be noted that communication from the supplier back office system, through the market flows, DCC, WAN, and network will frequently take longer than seconds except for specific functions that are optimized for real-time communications such as disconnect/reconnect, current reading data, and certain prepay functions.

Question 3: How can the costs of switching between different mobile networks be minimised particularly in relation to the use of SIM cards and avoiding the need change out SIMs?

Trilliant recommends the following to minimise the cost of switching between different mobile networks:

- The equipment data and communications protocols conform to a single set of standards.
- Where public networks are used for communications, the DCC should absorb contracting requirements with the public network providers and obtain contracts with all major carriers.
- Communication billing should be provided through the DCC so that there need not be a change of SIM on customer change.
- The DCC should award contracts for new customer installations on an annual tender process across the public network providers, ultimately awarding a single price for that period across all providers. This will provide the flexibility for the supplier to choose among the certified public network providers for the best coverage in a given area or other supplier preferences.

Question 4: Do you believe that the Catalogue is complete and at the required level of detail to develop the technical specification?

Trilliant believes the list is fundamentally sound and represents a good benchmark to begin from and expect the list will need to be refined as customer experience is gained. Regarding the home display, the only function that can be uniquely provided by a home display is true real-time energy use. All other functions could be provided at the display, but also on Web pages, mobile phones, smartphones, etc. The scope of the display should be limited to basic functionality to allow the market and consumers to innovate beyond this on whatever computing and display platform they prefer.

The display of billing data on the device should be strictly limited due to the difficulty of synchronizing data between large billing systems and individual devices (other than periodic display of data from the central billing system). Allowing for multiple calculations of billing data will likely lead to increased customer confusion, frustration with the programme, and increased supplier customer service inquiries and disputes.

Question 5: Do you agree that the additional functionalities beyond the high-level list of functional requirements are justified on a cost benefit basis?

Trilliant has no comment.

Question 6: Is there additional or new evidence that should cause those functional requirements that have been included or omitted to be further considered?

Trilliant agrees that last gasp capabilities are beyond the minimum definition. Last gasp capability would not automatically be capable within the existing devices, especially because the communications hub does not inherently need or have battery backup. Furthermore, the time and power needed to sustain a last gasp communication over a mobile network are significant. This will be a significant cost addition that would not be in the base meter or communications scope.

The communications device should be able to be exchanged without exchanging the meter. This will enhance interoperability, avoid the need to disconnect the customer's electrical power to service the communications device, and simplify upgrades and enhancements in the future. The ability to avoid additional customer disconnections on service of communications or other devices besides the electric meter will contribute very significantly to overall consumer satisfaction with the entire programme.

Trilliant agrees with the rejected category list. Temperature sensing will not provide meaningful diagnostic data and should not be included. An auxiliary switch should not be included in the meter for the reasons stated. A separate HAN device will accomplish the functionality with far less rewiring.

CHAPTER 5

Question 7: Do you agree that the proposed approach to developing technical specifications will deliver the necessary technical certainty and interoperability?

Trilliant agrees with the proposed approach for industry-drafted and programme-facilitated technical specification development (Option 2) and strongly believes that the industry should participate in the development of the technical specifications. There are numerous issues of interoperability, system integration, functional capabilities of the technology, operations and management issues that are best understood by industry and for which the industry will be largely responsible to implement and operate within.

Question 8: Do you agree it is necessary for the programme to facilitate and provide leadership through the specification development process? Is there a need for an obligation on suppliers to co-operate with this process?

Trilliant agrees that the programme should provide a process including forums, a discussion, and decision making process, and a time frame to assure that the parties come to appropriate outcomes within the necessary time frames.

Question 9: Are there any particular technical issues (e.g. associated with the HAN) that could add delay to the timescales?

Trilliant believes that with aggressive progress management, most issues can be achieved in the desired time frames. The current uncertainty in global HAN standards may create some challenges, but if the architecture recognizes that future upgrades and changes will be necessary and provides for the proper upgradeability of the devices, this should be manageable and not interfere with the programme rollout objectives.

Question 10: Are there steps that could be taken which would enable the functional requirements and technical specifications to be agreed more quickly than the plan currently assumes?

The timeline is fundamentally realistic, though the process can be compressed somewhat with active use of workshops and facilitated interaction among the parties.

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