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Action:	For Decision

MP202 DCC Preliminary Assessment

1. Purpose

MP202 '[Enduring Solution for SMETS1 and SMETS2+ PPMIDs](#)' is currently undergoing the Refinement Process. The purpose of this paper is to seek the Technical Architecture and Business Architecture Sub-Committee's (TABASC's) feedback on the Preliminary Assessment completed by the Data Communications Company (DCC).

2. Summary of MP202

This section summarises the key points of this Modification Proposal. More information is available in the Modification Report in Appendix B.

2.1 What is the issue?

The Smart Energy Code (SEC) currently differentiates between Smart Metering electricity Equipment (SMETS)1 and SMETS2+ Devices and is drafted so that a Device can be either SMETS1 or SMETS2+, but not both. The DCC has established that some models of Prepayment Meter Interface Device (PPMID) can work as both a SMETS1 Device and a SMETS2+ Device. However, the SEC does not currently make provisions for such Devices. This means that a PPMID cannot currently be treated as both a SMETS1 PPMID and a SMETS2+ PPMID, even if it is physically able to behave as such.

The DCC has several Users who have indicated they would like to use the same PPMID model across SMETS1 and SMETS2+ Devices. Upon receiving a Service Request for these Devices, the DCC is unable to determine for these whether to construct a Great Britain Companion Specification (GBCS) command for a SMETS2+ Device or forward the Service Request to the SMETS1 Service Provider (S1SP) for a SMETS1 Device. The SEC does not currently permit Devices to be both SMETS1 and SMETS2+ and the DCC Systems are unable to process commands to any Device type that is both SMETS1 and SMETS2+.

2.2 What is the Proposed Solution?

The Proposed Solution involves having two rows of the same firmware version for a Device Model included in the Central Products List (CPL): one row for SMETS1 and the other for SMETS2. The data received via CPL is stored in the Firmware Version table in the Smart Metering Inventory (SMI).

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Currently, the Primary Key (comprising of Firmware Version, Device Model, Device Type and the Manufacturer ID) held in the table can only accept one record for each firmware version.

The data model changes to the SMI will involve changing the primary key constraints. This will extend the Primary Key of the Firmware Version table by including a new SMETS1 Indicator field. The value of the SMETS1 Indicator field will be derived from the GBCS Version.

Processing Service Reference Variant (SRV)11.1 'Update Firmware' will be amended such that, in the case of PPMIDs only, where there is a record for both a SMETS1 and SMETS2 Firmware Version (indicating a dual mode PPMID), then the SRV11.1 Update Firmware request will be rejected with a new DCC User Interface Specification (DUIS) error code E110106 indicating that this firmware cannot be applied to a SMETS1 PPMID installation. (For backwards compatibility, this will be mapped to an existing error code E110101 for older DUIS versions).

Processing of SRV11.2 'Read Firmware', SRV11.3 'Activate Firmware' and Alert 0x8F8B 'Firmware activation alert' for PPMIDs will be amended such that, if there are multiple firmware versions available, the relevant one will be determined based on the SMETS version of the associated Communications Hub.

3. DCC Preliminary Assessment

3.1 Summary

- Total cost to complete the Full Impact Assessment of £13,211.
- The timescales to complete the Full Impact Assessment of 40 working days.
- Rough Order of Magnitude (ROM) costs for MP202, up to the end of Pre-Integration Testing (PIT) of £350,000 to 750,000.

3.2 Impacts on DSP

To support this, two rows of the same firmware version for a Device Model will be included in the CPL; one row for SMETS1 and the other for SMETS2.

The existing structure of the Firmware Version table is shown below for reference.

Firmware Version
Device Model
Manufacturer ID
Device Type
Firmware Version
Firmware Version Status
Firmware Version Hash
GBCS Version
SMETS CHTS Version

Table 1: Existing Firmware Version Table

The active firmware version of a Device is stored within the Device table. However, the data held in the Firmware Version table is used to distinguish SMETS1 Devices from SMETS2 Devices and to determine the status of a firmware version.

The new CPL behaviour necessitates the need for DCC Data Systems to make two key changes:

- a) data model changes to allow storing of two records for the same version of firmware;
and
- b) consequential processing logic changes to all the processing scenarios that rely on the Firmware Version table for SMETS version.

The DCC recognises that a change like this has the potential to have a negative impact on system performance if it is applied across all types of Devices. Therefore, the new processing changes will be applied in such a way that they are limited only to PPMIDs.

The ESI-040 (Enterprise System Interface- used for sharing data between the Data Service Provider (DSP) and DCC's Data Science and Analytics (DS&A) team for reporting) Firmware extract will feature two rows for the same firmware version if the PPMID is applicable for both SMETS1 and SMETS2. The format of the ESI-040 will remain unchanged. However, the SMETS version field will form part of the primary key.

4. Questions for the TABASC

We seek the TABASC's views on the following questions to feed into the discussions with the Working Group and for consideration in the full DCC Impact Assessment:

- Does the high-level solution architecture satisfy the stated aims of the Proposed Solution?
- Are there any additional technical aspects to the solution that should be considered prior to the full DCC Impact Assessment?

5. Next steps

SECAS will present the DCC Preliminary Assessment to the Working Group for discussion. SECAS will request Working Group input on the Preliminary Assessment and issue a Refinement Consultation for input from the wider industry.

6. Recommendations

The TABASC is asked to:

- **CONFIRM** that the Preliminary Assessment fulfils the Proposed Solution, and;
- **PROVIDE** views and feedback on the DCC's high-level technical solution.

Ben Giblin

SECAS Team

17 November 2022

Attachments:

- **Appendix A:** MP202 DCC Preliminary Assessment
- **Appendix B:** MP202 Modification Report