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Solution Design Specifications

SECMP0002:

Add new Command to reset Debt Registers

SECAS Contact:

Name:

SEC Change

Number:

020 7090 7755

Email:

SEC.Change@gemserv.com

Summary

This Modification Proposal seeks to add a new Smart Metering Equipment Technical Specification (SMETS) Command to allow Users to reset any of the three Debt Registers on an Electricity Smart Metering Equipment (ESME) or Gas Smart Metering Equipment (GSME).

Impacts



- Supplier Parties
- Other SEC Parties
- DCC
- DCC Central Systems
- Party Interfacing Systems
- Smart Metering Systems

SECMP0002

Solution Design
Specifications

13th March 2018

Version 1.0

Page 1 of 9

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Content

1. Business Requirements	3
2. System Requirements	4
3. Testing Requirements	6
4. Implementation	8
Appendix 1: Glossary	8

About this Document

This is the Solution Design Specification (SDS) document for SECMP0002, which contains the detailed:

- business requirements;
- system requirements;
- testing requirements; and
- implementation approach.

SECMP0002

Solution Design
Specifications

13th March 2018

Version 1.0

Page 2 of 9

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1. Business Requirements

This section sets out the detailed business requirements for SECMP0002.

Requirement 1 – New Commands to allow Users to reset any of the three Debt Registers on an Electricity Smart Metering Equipment (ESME) or Gas Smart Metering Equipment (GSME).

The change is to add Commands, so that each of the three Debt Registers can be reset to zero independently.

These reset Commands shall be usable in both credit and prepayment mode (although shall, in line with Smart Metering Technical Specification (SMETS) requirements, only affect any debt recovery when in prepayment mode).

The Commands shall each report success if the Debt Register in question is zero once the Command has executed. This means that Responses to these Commands would not contain any data that can be considered as 'personal' in accordance with the Data Protection Act. Thus, there are no Response encryption requirements.

SECMP0002

Solution Design
Specifications

13th March 2018

Version 1.0

Page 3 of 9

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2. System Requirements

This section sets out the detailed system requirements for SECMP0002.

GBCS Use Cases

The implementation approach, in terms of the new, corresponding Great Britain Companion Specification (GBCS) Use Cases is:

- on GSME, to use the same Zigbee Smart Energy (ZSE) Change Debt Command that is used in the existing adjust Debt Register Use Cases, but with the parameters set to achieve the reset behaviour required;
- on ESME, to use the same Device Language Message Specification Companion Specification for Energy Metering (DLMS COSEM) objects that are used in existing Use Cases for these three Debt Registers, and to use the corresponding DLMS COSEM specified method to reset debt registers on them; and
- to adopt the same GBCS Message Categories and access rights as the existing adjust Debt Register Use Cases, since the same rationale applies.

In line with the wider SEC approach, there is no requirement to update already installed ESME or GSME to support these new Use Case.

The new Use Cases do not require any changes to the ZigBee attributes / Commands to be supported over the Smart Metering Home Area Network (SM HAN). Thus, there is no impact on the design of, or requirements for, other HAN Devices.

The Communications Hub (CH) is only required to route these new Commands. There are no additional CH processing requirements.

The GSME Commands would not be Tapping Off Mechanism (TOM) Commands.

For the avoidance of doubt, the target device for the Command is GSME and ESME.

Service Request

From a DCC User perspective, access to these Commands shall be provided by a Service Request, with a choice of Debt Register to reset to zero. Only one Debt Register shall be able to be reset at one time.

Anomaly Detection

Given that the ZSE Change Debt command is to be the subject of anomaly detection packet inspection by the DCC, when used in existing Use Cases because it includes a supply affecting parameter, the new GSME Use Cases shall also be subject anomaly detection packet inspection. In this case, anomaly

SECMP0002

Solution Design
Specifications

13th March 2018

Version 1.0

Page 4 of 9

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detection packet inspection should check that the value of that supply affecting parameter is set to zero.

The new ESME Use Cases do not use DLMS COSEM mechanisms that are to be subject to anomaly detection packet inspection by the DCC for existing Use Cases because the reset behaviour is achieved by the reset method, and not a parameter that is set to zero. Thus, the ESME Use Cases are not required to be subject to anomaly detection packet inspection.

Given that the new Use Cases would be Critical, they would be in scope of threshold anomaly detection, so affecting both DCC Users and the DCC in this area.

SECMPO002

Solution Design
Specifications

13th March 2018

Version 1.0

Page 5 of 9

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3. Testing Requirements

This section outlines the Modification Proposal implementation testing to be provided by the DCC in accordance with SEC Section H14.34¹.

1. The DCC shall provide Testing Services to support the implementation of SECMP0002 to assess the interoperability of User Systems with DCC Systems and Smart Metering Devices.
2. The DCC shall provide an analysis including supporting assumptions and rationale, of any testing required to the DCC Total System.
3. The DCC shall prepare a report setting out the scope, phases, timetable, Testing Participants, any assumptions and rationale in relation to SEC System Release testing, including this modification. This report shall be provided to the SEC Panel, as part of Release Management activities.
4. The testing environment that the DCC provides in support of SECMP0002 as part of Testing Services shall be open to all User Roles eligible to send the Service Request (Import and Gas Suppliers). This environment shall be made available for a minimum of 15 Working Days, depending on the impact of the change. The DCC shall provide the costs and assumptions associated with providing this Testing Service, including whether the testing costs are based on a set number of Users utilising the Testing Service, i.e. up to 10 Users, noting that at least two Large Suppliers may test the functionality. This is to ensure it operates correctly before it is put into the End-to-End and Production environments. Noting:
 - a. Updating Service Request mappings; and
 - b. Testing Issues managementprovided by the DCC shall be voluntary to Users.
5. The objective of testing as part of the Testing Services shall be to ensure that, in response to the Service Request, the User receives the corresponding Service Response from the DCC.
6. As part of the Testing Services, the DCC shall provide Users with a corresponding version of the Parse and Correlate software and Message Mapping Catalogue.
7. The acceptance criteria for testing as part of the Testing Services shall be, following successful execution of the corresponding Command, the User

¹ Modification Implementation Testing

SECMP0002

Solution Design
Specifications

13th March 2018

Version 1.0

Page 6 of 9

This document is
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receives the corresponding Service Response from the DCC that a Debt Register is reset to zero.

8. The DCC shall allow Users to add Type 1 and Type 2 Devices to their test Smart Metering Systems. Such Devices will be supplied by Users.
9. As reasonably required, the DCC shall provide:
 - a) a reasonable number of Test CH for use in the testing environment which represent every combination of HAN and WAN Variant;
 - b) Test Stubs (or other alternative arrangements) to emulate meter behaviour of version(s) of SMETS in force prior to the Release as well as the version of SMETS which will be effective on the Release date.
10. As the DCC will apply all applicable Anomaly Detect Thresholds (ADTs) to the Signed Pre-Commands in the test environment, Users will be expected to set User volume ADTs and data value ADTs as applicable. The process for setting the ADTs as well as for receiving notifications when a Signed Pre-Command has been quarantined shall be part of the test environment.

SECMP0002

Solution Design
Specifications

13th March 2018

Version 1.0

Page 7 of 9

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4. Implementation

Implementation Date

The recommended implementation date for SECMP0002 is:

- 27th June 2019, if a decision to approve is made by 27th May 2018; or
- 7th November 2019, if a decision to approve is made after 27th May 2018 but on or before 7th October 2018.

SECMP0002

Solution Design
Specifications

13th March 2018

Version 1.0

Page 8 of 9

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Appendix 1: Glossary

The table below provides definitions of the terms used in this document.

Acronym	Term
ADT	Anomaly Defection Threshold
CH	Communications Hub
CSP	Communication Service Provide
DCC	Data Communications Company
DMR	Draft Modification Report
DSP	Data Service Provider
DUIS	DCC User Interface Specification
EC	European Commission
ESME	Electricity Smart Metering Equipment
GBCS	Great Britain Companion Specification
GFI	GBCS For Industry
GSME	Gas Smart Metering Equipment
MRC	Modification Report Consultation
SEC	Smart Energy Code
SMETS	Smart Metering Equipment Technical Specification
SMHAN	Smart Metering Home Arena Network
TOM	Tapping Off Mechanism
WG	Working Group
WGC	Working Group Consultation
ZME	Zigbee Smart Energy

SECMP0002

Solution Design
Specifications

13th March 2018

Version 1.0

Page 9 of 9

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