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Paper Reference:	SECP_74_1511_11
Action:	For Information

SECMP0007 progress update

1. Purpose

[SECMP0007 'Firmware updates to IHDs and PPMIDs'](#) is undergoing the Refinement Process. The Data Communications Company (DCC) is currently carrying out its Impact Assessment for the proposed solution. However, several events have transpired which have prevented the DCC from completing its assessment on time due to queries around the solution.

This paper provides a high-level summary of the timeline of events that occurred since we requested the Impact Assessment, and the next steps for the modification.

2. Summary of the proposal

What is the issue?

This modification seeks to provide the capability to update firmware Over-The-Air (OTA) for mandated Home Area Network (HAN) Devices via the DCC's infrastructure. The Smart Metering Implementation Programme (SMIP) technical specifications currently capture OTA firmware updates via the DCC to the Communications Hub, Electricity Smart Metering Equipment (ESME) and Gas Smart Metering Equipment (GSME) only. Requirements for OTA firmware updates to mandated HAN devices are not captured.

What is the Proposed Solution?

The scope of this modification currently consists of In-Home Displays (IHDs), Pre-Payment Meter Interface Devices (PPMIDs) and HAN Connected Auxiliary Load Control Switches (HCALCS).

The Proposer has agreed to progress with a combination of the two solutions given in the DCC Preliminary Assessment:

- Updating firmware OTA for IHDs and PPMIDs via ZigBee (DCC PA Option 1)
- Updating firmware OTA for HCALCS via modified GB Companion Specification (GBCS) Commands (DCC PA Option 2)

Option 1 involves a mechanism to deliver the firmware images to the IHD and PPMID Devices using ZigBee OTA delivery. This mechanism requires new GBCS use cases to distribute and return Device firmware version. As this solution is intended for ZigBee capable Devices only, the solution cannot communicate directly with the Devices and cannot re-use the existing method for distribution and

activation of ESME/GSME firmware. As part of this option, the Communications Hub will manage the activation of firmware and the notification to the Service User upon activation.

The imperative for Option 2 is to extend the existing EMSE/GSME OTA firmware update procedure to the HCALCS. Distribution of the firmware images is separated from activation, which requires a GBCS Critical Command. Activation therefore requires the verification against the security credentials held on the HCALCS.

3. Progression update

The below table sets out the timeline of events since the DCC completed its Preliminary Assessment. We have summarised the events that have occurred since we requested the DCC Impact Assessment, which have prevented the DCC from completing this on time.

Activity	Date
Working Group discuss Preliminary Assessment	1 May 19
Refinement Consultation	24 May 19 – 17 Jun 19
Respond to consultation queries and agree the business requirements with the DCC	18 Jun 19 – 21 Jul 19
DCC Impact Assessment requested	22 Jul 19
Green Energy Options (geo) proposed alternative solution options <ul style="list-style-type: none"> geo suggest the removal of the proposed ban on local firmware updates 	17 Jul 19
The Working Group considered geo's proposed solutions <ul style="list-style-type: none"> Outcome: The Proposer and the Working Group agree to reject geo's proposed solutions and proceed with the Proposer's proposed solution 	7 Aug 19
SECAS publishes first draft of the GBCS legal text	29 Aug 19
An Other SEC Party proposes legal text changes <ul style="list-style-type: none"> They suggest making the inclusion of the hardware version in the 'Query Next Image Request Command' optional 	30 Aug 19
Proposer accepts the Other SEC Party's proposal	12 Sep 19
The DCC raises a change to the cost for the Impact Assessment <ul style="list-style-type: none"> The Impact Assessment cost rises from £187,703 to £392,785 	13 Sep 19
The Change Board approves the revised Impact Assessment cost	18 Sep 19
SECAS and the DCC identified options for the legal text detail: <ul style="list-style-type: none"> Service Request for combined distribution and activation of PPMID/IHD firmware Rules for the use of Communications Hub memory blocks 	23 Sep 19
The Security Sub-Committee (SSC) considers the proposed solution <ul style="list-style-type: none"> Outcome: The SSC agreed with the PPMID/IHD approach, as long as it matches the existing Anomaly Detection Threshold volume regime as applied to ESME and GSME 	9 Oct 19

Activity	Date
<ul style="list-style-type: none"> Outcome: The SSC agreed with the HCALCS approach 	
The Proposer ¹ raises an amendment to the solution, preferring a different Service Request for combined distribution and activation of PPMID/IHD firmware	15 Oct 19
The Working Group discuss the outstanding questions on the solution <ul style="list-style-type: none"> Outcome: The DCC is to proceed with its Impact Assessment as-is Outcome: The DCC is to ask its Service Providers to provide cost impacts on the use of different Service Requests as well as the use of memory blocks on the Communications Hub² 	6 Nov 19

4. Next steps

The DCC has advised that it will complete its first version of the Impact Assessment response by the end of November 2019. We note that the Security Sub-Committee (SSC) and the Technical Architecture and Business Architecture Sub-Committee (TABASC) have both requested to review the assessment, with the SSC also intending to carry out a risk assessment on the completed Impact Assessment response.

Regardless of whether these actions have been completed by this time, we intend to present the Modification Report to the Panel on 13 December 2019, noting the targeted implementation date of the November 2020 SEC Release. We will recommend at this meeting whether this modification should proceed to the Report Phase or whether it needs to remain in the Refinement Process, noting that the SSC's risk assessment might still be outstanding. The Panel can then review progress and decide how to proceed.

5. Recommendations

The Panel is requested to **NOTE** the contents of this paper.

Joe Hehir

SECAS Team

8 November 2019

¹ There is also a change in Proposer due to the original named sponsor leaving their organisation.

² This information will be provided after the DCC Impact Assessment.