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SECMP0007 Rollout and the 2022 Releases Landscape

1. Purpose

This paper sets out the Data Communications Company's (DCC's) proposed approach to rolling out the Communications Services Provider (CSP) system and Communications Hub firmware changes required for SECMP0007 'Firmware updates to IHDs and PPMIDs'. The Panel is requested to agree the approach the DCC should take.

This paper also sets out SECAS' and the DCC's view on the DCC System impacting modifications that should be targeted for the June 2022 and November 2022 SEC Releases. This includes how these will be affected by the rollout of SECMP0007 and the other major programmes of work in 2022. The Panel is invited to agree the proposed scopes and confirm the content of these SEC Releases.

2. Rollout of the SECMP0007 firmware updates

2.1 Background and approaches

The Proposer, the SECMP0007 Working Group and the DCC agreed that the implementation date for SECMP0007 needed to be as soon as possible to achieve the most benefit. Therefore, the Working Group recommended, and the Panel approved, the following approach:

- The Data Service Provider (DSP) system changes and all the SEC legal text, including the Communications Hub Technical Specification (CHTS) changes, would be implemented in the November 2021 SEC Release.
- The required firmware updates to Communications Hubs would then be rolled out later as the updates became available from the CSPs; this would not need to happen as part of a SEC Release. A date was not confirmed as part of the SECMP0007 Modification Report; these updates were subsequently targeted to be deployed alongside the June 2022 SEC Release, to allow for combined testing with the other modifications in this release.

The DCC has been working closely with the CSPs to develop a detailed delivery plan and initial testing approach for development and deployment of the Communications Hub firmware for SECMP0007. In parallel to this planning are critical dependencies on the GB Companion Specification (GBCS) v3.2 Programme and the Enduring Change of Supplier (ECoS) Programme, adding to the complexity of baselining the delivery plan.

Both CSPs have a dependency on delivering the GBCS v3.2 firmware before they can deliver the firmware for SECMP0007. Additionally, the CSPs are only able to build one new firmware version at a time. The GBCS v3.2 Programme has already experienced significant delays of approximately four months, impacting the start date for the work on the SECMP0007 firmware. This has created a significant risk of failure in completing testing of SECMP0007 to meet the June 22 SEC Release date, with the expected delivery date of the firmware now expected to be later in 2022.

In March 2021, the DCC presented the Panel with five options for how the SECMP0007 firmware updates could be rolled out[1]. The Panel agreed for the DCC to consult further on options 2 and 4 from this paper with the Technical Architecture and Business Architecture Sub-Committee (TABASC) and the Operations Group (OPSG):

- **Option 4:** The DCC's recommended approach is to deploy the CSP system changes alongside the June 2022 SEC Release. The firmware updates would then be deployed to Communications Hubs as they became available from the CSPs over subsequent months. This approach is similar to the one used for Release 2.0 and will mitigate the risk of further delays arising due to the rollout of the GBCS v3.2 firmware.
- **Option 2:** The Panel also requested the DCC investigates the option to deploy the CSP changes alongside the November 2022 SEC Release, with the firmware being made available at the same time the CSP system changes are set live. The DCC has indicated this could be achieved based on high-level plans from the CSPs, but is dependent on several factors including how many versions can be User-tested simultaneously, whether any significant issues are found during testing, and that there is no further slippage to the GBCS v3.2 versions of firmware.

A summary of the SECMP0007 firmware rollout stages and timings can be found in Annex A.

2.2 Firmware rollout plan

Over-the-air (OTA) firmware distribution to Prepayment Meter Interface Devices (PPMIDs) and Home Area Network (HAN) Connected Auxiliary Load Control Switches (HCALCSs) can only commence following the rollout of the new Communications Hub firmware that supports the SECMP0007 functionality (CHTS v1.5 and GBCS v4.1).

The SECMP0007 firmware update rollout approach is expected to follow the same process as the approach adopted for the Release 2.0 Communications Hub firmware updates and for the upcoming GBCS v3.2 firmware updates, applying any relevant lessons learnt.

This will include:

- Validation of each firmware variant in the UIT environment
- A low volume **pilot** roll-out phase for each Communications Hub variant
- Commencement into a **mass** roll-out phase

These steps will be progressed for each firmware variant in line with CSP delivery, required approvals and industry agreement via the OPSG.

[1] Please see Panel paper SECP_90_1203_23 (Green) for more details.

As an indication, based on current capacity and the forecast number of Communications Hubs deployed by the end of 2022, the DCC has estimated this rollout is likely to take:

- CSP South: five to seven months
- CSP Central: seven to eight months
- CSP North: six to eight months

The DCC will confirm timescales and agree the firmware rollout approach and plan with the OPSG in advance of any rollout.

2.3 TABASC and OPSG views

The TABASC and the OPSG recognised option 4 would break the dependency on all three CSP Regions needing to have delivered their Communications Hub firmware updates together. Therefore, OTA functionality would be delivered to each CSP Region as and when it is ready.

The OPSG noted the advantages of option 4 in that it will provide a more flexible approach to delivering the changes should the GBCS v3.2 firmware rollout be further delayed. It also welcomed the added oversight the DCC will provide in respect to the SECMP0007 firmware roll-out.

Both Sub-Committees requested that any agreed firmware rollout plan for SECMP0007 be published in the Join Industry Plan (JIP) due to the various other programmes occurring throughout 2022. SECAS will investigate this with the Department for Business, Energy and Industrial Strategy (BEIS) and the DCC.

We recommended that option 4 be taken forward as it will provide the more flexible approach to delivering the changes should the GBCS v3.2 firmware rollout be further delayed. Neither the TABASC nor the OPSG expressed a clear indication as to which approach they preferred.

3. Proposed scopes of the 2022 SEC Releases

3.1 Targeted modifications

The table below sets out the modifications that impact the DCC Systems that we believe should be targeted for the June 2022 and November 2022 SEC Releases, along with which Technical Specification documents they will impact:

Modification	GSMETS	ESMETS	IHDTS	PPMIDTS	CHTS	GBCS	DUIS[2]	MMC
SECMP0015 'GPF timestamp for reading instantaneous Gas values'	4.x	-	-	-	1.x	4.x	5.x	5.x
SECMP0024 'Enduring Approach to Communication Hub Firmware Management'	-	-	-	-	-	-	5.x	-
SECMP0056 'IHD / PPMID Zigbee Attributes Available on the HAN'	-	5.x	4.x	4.x	1.x	4.x	-	-

[2] The DCC's current view is that the DUIS changes from these modifications and from ECoS would generate a minor DUIS uplift.

Modification	GSMETS	ESMETS	IHDTS	PPMIDTS	CHTS	GBCS	DUIS[2]	MMC
MP078 'Incorporation of multiple Issue Resolution Proposals into the SEC - Part 2'	4.x	-	-	-	1.x	4.x	-	-
MP099 'Incorporation of multiple Issue Resolution Proposals into the SEC - Batch 4'	-	-	-	-	-	4.x	-	-
MP104 'Security Improvements'	-	-	-	-	-	-	5.x	-
MP107 'SMETS1 Validation of SRV 6.15.1'	-	-	-	-	-	-	-	-
MP109 'ADT and Exit Quarantine file delivery mechanism'	-	-	-	-	-	-	-	-
MP117 'Bulk CH returns'	-	-	-	-	-	-	5.x	-
MP119 'CH Alert Storm Consolidation'	-	-	-	-	-	-	-	-
MP134B 'Use of SMKI Certificates relating to a SoLR event - Part 2'[3]	-	-	-	-	-	-	-	-
MP140 'CH Stock Transfer'	-	-	-	-	-	-	-	-
MP141 'SRV Visibility for Devices on SSI'	-	-	-	-	-	-	-	-

3.2 Impact from other major programmes in 2022

SECMP0007 firmware rollout

The GBCS changes from the above modifications will require further Communications Hub firmware changes. The DCC has advised that these firmware changes will need to follow on from the firmware changes for SECMP0007 in GBCS v4.1, which is not expected to be completed before the end of September 2022. We therefore believe it would be pragmatic to target the GBCS uplift for the November 2022 SEC Release to maximise the number of modifications that can be included within the uplift. The DCC can then develop the firmware changes for this GBCS version, which don't need to be tied to a SEC Release, once the GBCS v4.1 firmware changes have been completed.

Enduring Change of Supplier

The ECoS changes are currently targeted for implementation alongside the June 2022 SEC Release. This change will impact the DCC User Interface Specification (DUIS). We would recommend that the modifications which impact the DUIS are implemented in the June 2022 SEC Release. This will allow for a single DUIS uplift to be made encompassing all changes.

Ofgem's Faster Switching Programme

Faster Switching is currently expected to go live in Summer 2022, although a firm date has not been determined. These changes will impact on the registration data interface under the SEC but is not

[3] The impacts of MP134B on the technical specification documents are still being assessed

currently expected to impact on the SEC technical documentation. However, the DCC will need to test changes within its systems, which will create test environment constraint if the changes are implemented too close to a SEC Systems Release.

3.3 Proposed SEC Release scopes

Taking these factors into consideration, we and the DCC are recommending the modifications above be targeted for the following SEC Releases:

June 2022 (30 Jun 22)	November 2022 (03 Nov 22)	
SECMP0024	SECMP0015	MP109
MP104	SECMP0056	MP119
MP117	MP078	MP134B
SECMP0015 DUIS changes	MP099	MP140
	MP107	MP141

This would see a single uplift of the SMETS, the CHTS and the GBCS in the November 2022 SEC Release, while the DUIS changes are implemented in the June 2022 SEC Release alongside the ECoS changes.

SECMP0015 impacts both the GBCS and the DUIS. We are proposing to implement the DUIS changes for this in the June 2022 SEC Release and the remaining changes in the November 2022 SEC Release. This would likely see the DUIS document changes implemented in June 2022, with the functionality tested as part of the November 2022 SEC Release.

SECMP0015 has already been approved for inclusion in the June 2022 SEC Release, and SECMP0056 has been submitted to the Authority with this as the targeted release. If the Panel agrees with our proposed scopes, we ask the Panel to agree to request the Authority revises the implementation dates for these modifications accordingly.

3.4 TABASC and OPSG views

Both the TABASC and OPSG agreed with the proposed scopes of the June 2022 and November 2022 SEC Releases, noting the benefits of having a single DUIS uplift in 2022 aligned with the ECoS implementation, as well as a single SMETS, CHTS and GBCS uplift in the November 2022 SEC Release.

Neither Sub-Committee had any comments on the SECMP0015 implementation approach.

4. Recommendations

The Panel is requested to:

- **AGREE** that option 4 should be progressed for rolling out the SECMP0007 CSP changes and Communications Hub firmware updates;
- **AGREE** the proposed scopes of the June 2022 and November 2022 SEC Releases on the DCC Systems; and
- **AGREE** to request the Authority revises the implementation dates for SECMP0015 and SECMP0056 in line with the proposed scopes.

Joe Hehir

SECAS Team

9 April 2021

Annex A: SECMP0007 firmware rollout stages

The stages and expected timings of the SECMP0007 roll-out is summarised in the following table. The stages are sequential and need to happen in this order.

Solution stage	Timing	Updates implemented	Effect for Users
1) DSP system and SEC changes implemented	Nov 21	DSP systems updated to support SECMP0007 changes. Introduces the framework that supports the subsequent delivery of PPMID and HCALCS firmware upgrades The DSP will track the progress of the firmware update requests from Users at a Device level Electricity Smart Metering Equipment (ESME) and Gas Smart Metering Equipment (GSME) firmware distribution tracking will become usable to Users Service Users will be sent new DCC Alerts (N60, N61) to notify the different stages of firmware update processing New SSI/SSMI screen for firmware distribution tracking to view the processing status of each firmware update request	Firmware distribution progress tracking available for ESMEs and GSMEs
2) CSP system changes implemented	***Option 4:*** Jun 22 ***Option 2:*** Nov 22	CSP systems updated to support SECMP0007 changes. Introduces the framework that will support the subsequent passing of PPMID and HCALCS firmware upgrades received from the DSP through the CSP systems to the targeted Communications Hub	No visible service change
3) New Communications Hub firmware available for use	***Option 4:*** From Sep 22 ***Option 2:*** Nov 22	New Communications Hub firmware version made available for each Communications Hub variant to support PPMID and HCALCS firmware distribution and activation *This functionality can ONLY be used once the new firmware is deployed to existing Communications Hubs*	No visible service change Roll-out of new firmware version to existing deployed Communications Hubs can begin

Solution stage	Timing	Updates implemented	Effect for Users
4) Firmware deployed to Communications Hubs	***Option 4:*** From Sep 22 ***Option 2:*** From Nov 22	Enables end-to-end firmware distribution to PPMIDs and HCALCSs for Users Introduces new Device Alerts from Communications Hubs to provide notification of success or failure of HAN transfer for ESME, GSME, PPMID and HCALCS SMETS2 Devices New DCC Alerts (N59, N62, N39) to notify Service User of Communications Hub Device Alerts and PPMID Device Alerts PPMID and HCALCS firmware distribution tracking will become usable to Users *Each day as part of the Communications Hub firmware roll-out process, more Smart Metering Systems will have the full SECMP0007 functionality made available to Users*	Firmware updates can be deployed to PPMIDs and HCALCSs Firmware distribution progress tracking available for PPMIDs and HCALCSs