SEC Modification Proposal, SECMP0024

Enduring Approach to Firmware Management

Preliminary Impact Assessment (PIA), DCC CR 4032

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Contents

1 Document History

1.1 Revision History

Revision Date	Revision	Summary of Changes
20/10/2020	0.1	Initial draft based on Service Provider PIA

1.2 Associated Documents

This document is associated with the following documents:

Ref	Title	Source	Issue Date
1	Business Requirements v2.0	SECAS	

1.3 Document Purpose

The purpose of this Preliminary Impact Assessment (PIA) is to provide the relevant Working Group with an assessment of the business requirements and solution that were put forward by the Working Group.

1.4 Previous Document Information

The original Proposer for this Modification was Rob Wilson.

The Preliminary Impact Assessment was requested of DCC in September 2020.

2 Introduction

This Modification seeks to amend the Smart Energy Code (SEC) and DCC's systems to provide an Alert that notifies each Responsible Supplier for a Communications Hub of the successful activation of a firmware image on that Communications Hub.

It should be noted that the functionality described for this Modification is also part of the scope of SECMP0122B, CR1423. The changes under this Modification and CR4032 are DSP only in nature, whereas the changes under CR1423 cover a wider scope and have a dependency on the CSPs. The dependency will be investigated if and when the changes are progressed to a Full Impact Assessment.

For the purposes of this Preliminary Impact Assessment, it is assumed that the SECMP0024 required changes will be delivered standalone – i.e independently of SECMP0122B.

2.1 Context and Benefits

Currently, there is no system generated notification to Responsible Suppliers to confirm successful activation of Communications Hub firmware.

In previous iterations of this Modification, it was conceived that Responsible Suppliers would have some level of control over the target list of Communications Hubs that would receive firmware updates as part of a pilot phase and over the schedule for deployment of firmware to Communications Hubs during both pilot and mass deployment phases. A DCC Alert notifying successful activation was also proposed, to enable Suppliers to:

- track progress of Communications Hub firmware update pilots;

- update back office systems to record the active firmware version on each Communications Hub, avoiding the need to query the Inventory periodically to obtain this information; and

- plan the deployment of firmware updates to other HAN Devices following activation of the new Communications Hub firmware.

Whilst it was agreed by the Working Group that the planning and scheduling aspects of the previous iteration of the Modification are largely in place within the process described in the DCC Firmware Management Policy, and were hence removed from the scope of the Modification, the benefits associated with the additional DCC Alert remain valid.

2.2 High Level Business Requirements

The high level business requirements for this Modification are as follows.

1	The DCC is to generate an Alert to the Service User upon successful activation of Communications Hub firmware, containing the firmware version of the newly activated firmware.

3 Proposed Solution

3.1 Solution Description

DCC Data Systems will introduce a new DCC Alert to notify the Service Users of the successful activation of a Comms Hub firmware version. DCC Alert N63 will be used for this and will include the version of the activated firmware on the Device.

The scenario under which this DCC Alert is generated and the applicable recipients are summarised in the table below.

Notification Scenario	Trigger	Condition	DCC Alert ID	Recipients
Successful Comms Hub Firmware Activation	Response from Comms Hub to the Activate Firmware request (CS06) sent by the CSP via CSP Management Gateway.	Response indicates new active firmware version.	N63	All Responsible Suppliers

Table 1 Criteria for N63

The definition of the new DCC Alert will need to be included in DUIS. The required changes to DUIS are minor.

3.2 DSP Impacted Components

The following components will be impacted:

- DUIS/DUGIDS
    - o DUIS and DUGIDS documentation will be updated to describe the behaviour of the new DCC Alert. The DUIS XML Schema will be updated to include the definition of the new DCC Alert.

- Request Management
    - o Request Management will handle the DCC Alert generation.

- Data Management
    - o There will be minor changes such as reference data updates within Data Management.

4 Impact on DCC's Systems, Processes and People

This section describes the impact of SECMP0024 on the DCC Total System services and interfaces that impact Users and/or Parties.

4.1 Security Impact

The new DUIS schema will need to be loaded into DSP's Data Power appliances across all DSP environments.

The change does not impact the DSP resilience or its DR implementation.

4.2 Infrastructure Impact

The new DUIS schema will need to be loaded into DSP's Data Power appliances across all DSP environments.

Additional processing and storage will be required, however, they are not sufficiently large to warrant the procurement of additional compute power or storage.

The change does not impact the DSP resilience or its DR implementation.

4.3 Integration Impact

The new DCC Alert will need to be tested in both SIT and UIT.

4.4 Service Impact

There is not expected to be a material service impact but a more detailed service impact will be carried out as part of the Full Impact Assessment.

5 Implementation Timescales

A minimum of four months should be allowed from commercial cover being provided to the change being declared PIT Complete.

A more detailed timeline for the implementation of the change will be determined via the Full Impact Assessment.

5.1 Implementation Approach

Implementation of this change is assumed to follow a waterfall methodology. The release lifecycle duration will be confirmed as part of the FIA.

5.2 Testing and Acceptance

This change includes the standard test phases as documented in schedule 6.2 and it is assumed that the change will be implemented and tested as part of a major release and will include release-based regression testing in SIT and UIT.

6 Costs and Charges

The table below details the cost of delivering the changes and Services required to implement this Modification Proposal.

The scope of supply under this PIA includes design, development (build), system testing, and unit testing within the PIT environments.

The Rough Order of Magnitude cost (ROM) shown below describes indicative costs to implement the functional requirements as assumed above. The price is not an offer open to acceptance. It should be noted that the change has not been subject to the same level of analysis that would be performed as part of a Full Impact Assessment and as such there may be elements missing from the solution or the solution may be subject to a material change during discussions with the DCC. As a result, the final offer price may result in a variation.

6.1 Design, Build, and Testing Cost Impact

The table below details the cost of delivering the changes and Services required to implement this Modification. For a PIA, only the Design, Build and PIT indicative costs are supplied.

Design, Build and PIT	SIT	UIT	TTO	App. Support	SP Total
£151,000 – £350,000	n/a	n/a	n/a	n/a	£151,000 – £350,000

Design	The production of detailed System and Service designs to deliver all new requirements.
Build	The development of the designed Systems and Services to create a solution (e.g. code, systems, or products) that can be tested and implemented. It includes Unit Testing (also referred to as System Testing), Performance Testing and Factory Acceptance Testing by the Service Provider or supplier.
Pre-Integration Testing (PIT)	Each Service Provider tests its own solution to agreed standards in isolation of other Service Providers. This is assured by DCC. This phase also includes regression testing across all Comms Hub products
Systems Integration Testing (SIT)	All the Service Providers PIT-complete solutions are brought together and tested as an integrated solution, ensuring all SP solutions align and operate as an end-to-end solution. The System Integrator is responsible for leading this phase with the Service Providers offering testing support services.
User Integration Testing (UIT)	Users are provided with an opportunity to run a range of pre-specified tests in relation to the relevant change. The DCC is responsible for leading this phase with the Service Providers offering testing support services.
Implementation to Live (TTO)	The solution is implemented into production environments and ready for use by Users as part of a live service. The Transition to Operations (TTO) service is subject to implementation costs.
Application Support	Any costs associated with supporting the new functionality.

The fixed price cost for a Full Impact Assessment is:

£11,702.01

and would be expected to be completed in 30 days.

7 Risks, Assumptions, Issues, and Dependencies

In the following sections, Risks, Assumptions, Issues, and Dependencies have been identified.

It is possible that further RAID will be established as part of the Working Group reviews and the FIA.

7.1 Risks

None at this time.

7.2 Assumptions

Ref.	Area	Description	Accept
MP24-AD01	Testing	Testing for this Modification will be delivered via the B stream of test environments.	
MP24-AD02	Deployment	This Modification will be delivered as part of a release that includes other Modifications with greater impacts to DUIS. The DUIS uplift is expected to be handled as part of those other Modifications and is, therefore, excluded from the scope of this PIA and the accompanying estimates.	
MP24-AD03	Service Levels	There will be no additional Performance Measures or Service Levels as part of this Modification.	
MP24-AD03	Capacity	This Modification will result in additional load on the DSP Systems, however it is assumed that this will not materially impact the available processing headroom to the extent that performance is affected. An estimate of the additional DCC Alert traffic will be provided as part of the Full Impact Assessment.	
MP24-AD04	Deployment	The changes required under this SECMP0024 will be delivered standalone – i.e independently of SECMP0122B.	

7.3 Issues

None at this time.

7.4 Dependencies

None at this time.

Appendix A: Glossary

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

Acronym	Definition
CH	Communications Hub, Comms Hub
CPL	Certified Products List
CR	(DCC) Change Request
CSP	Communication Service Provider
DCC	Data Communications Company
DCC-L	DCC Total System, DCC Licensing
FIA	Full Impact Assessment
GUID	Globally Unique IDentifier
PIA	Preliminary Impact Assessment
SEC	Smart Energy Code
SIT	System Integration Testing
SMIP	Smart Metering Implementation Programme
UIT	User Integration Testing