

SEC Modification Proposal, SECMP0141, DCC CR4242

SRV Visibility for Devices on SSI Full Impact Assessment (FIA)



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1 Executive Summary

The Change Board are asked to approve one of the following options for implementation:

Option A, Allow a Responsible Supplier to see all SRVs and Service Responses sent by all Users to a Device they own

- Total cost to implement SECMP0141 of £158,831, which comprises:
 - £105,981 in Design, Build and PIT costs
 - £52,850 in release costs (SIT, UIT and TTO)
- A timescale to complete the implementation of 10 months
- Include SECMP0141 in the November 2022 SEC Release

Option B, Allow a Responsible Supplier and Network Operator to see all SRVs and Service Responses sent by all Users to a Device they own

- Total cost to implement SECMP0141 of £199,839, which comprises:
 - £124,301 in Design, Build and PIT costs
 - £75,538 in release costs (SIT, UIT and TTO)
- A timescale to complete the implementation of 10 months
- Include SECMP0141 in the November 2022 SEC Release

Problem Statement

SECMP0141 proposes changes to the Self Service Interface (SSI) to allow Supplier Parties and the Network Operators to view the titles of the Service Request Variants (SRV) sent to the Devices they own, and the corresponding Service Responses from the Device.

Supplier Parties are currently unable to view SRVs or Service Responses from other Service Users that they receive on their Devices. This is due to an obligation in the Smart Energy Code (SEC) that states only an individual User can view the SRVs and Service Responses they send or receive. This leads to SRVs and Service Responses being received by Supplier Parties without visibility or information of the triggering requests.

Benefit Summary

The main beneficiaries of the change will be Supplier and Network Operator parties who will have visibility or information of the triggering requests associated with SRVs and Service Responses sent by all Users to a device they own. This will address current issues where other User's activity may be high priority or have security implications.

2 Document History

2.1 Revision History

Revision Date	Revision	Summary of Changes
28/09/2021	0.1	Initial compilation
30/09/2021	0.2	Updated following internal review

2.2 Associated Documents

This document is associated with the following documents:

#	Title and Originator's Reference	Source	Issue Date
1	MP141 Modification Report	SECAS	11/01/2021
2	SECMP0141 CR4242 - PIA - SRV Visibility for Devices on SSI v0.2	DCC	08/04/2021

2.3 Document Information

The Proposer for this Modification is Clive Hallam of DCC. The original proposal was submitted on 24th August 2020.

The Preliminary Impact Assessment was requested of DCC on 19th March, 2021. It was completed on 8th April, 2021. A Full Impact Assessment was requested on 1st July, 2021.

3 Solution Requirements and Overview

In this section, the context of the Modification, assumptions, and the requirements are stated.

The problem statement and requirements have been provided by SECAS and the Proposer.

3.1 Problem Statement

Supplier Parties are currently unable to view Service Request Variants (SRVs) or Service Responses from other Service Users that they receive on their Devices. This is due to an obligation in the Smart Energy Code (SEC) that states only an individual User can view the SRVs and Service Responses they send or receive. This therefore leads to SRVs and Service Responses being received by Supplier Parties without visibility or information of the triggering requests, which is causing issues where they may be high priority or have security implications. A change is required to alter the SSI and to provide the Service Audit Trail (SAT) information for all SRVs and Service Responses to, or from, any meter a User owns.

3.2 Business Context and Requirements

This section contains the considerations and assumptions for each business requirement.

Req.	Requirement
1	Allow Responsible Supplier to see all SRVs and Service Responses sent by all Users to a Device they own via the SSI.
2	Allow Network Operator to see all SRVs and Service Responses sent by all Users to a Device they own via the SSI.

Table 1: Business Requirements for SECMP0141, CR4242

Note that the Working Group requested two solution options, Option A covering requirement 1, with Option B covering requirements 1 and 2.

3.2.1 Requirement 1: Allow Responsible Supplier to see all SRVs and Service Responses sent by all Users to a Device they own via the SSI

This requirement needs a solution which will allow the Responsible Supplier of a Device they own to be able to view all SRVs and Service Responses sent to said Device by all Users. This will allow the Responsible Supplier to view all SRVs and Service Responses on any Device they own via the SSI, so that they can make an informed decision on whether to action them.

The 'all Users' in the requirement title applies to the following User roles:

- Other User
- Another Supplier Party
- Registered Supplier Agent (RSA)
- Network Operator
- Any future User role added after approval of the Modification Proposal

3.2.2 Requirement 2: Allow Network Operator to see all SRVs and Service Responses sent by all Users to a Device they own via the SSI

This requirement needs a solution which will allow the Network Operator of a Device they hold a certificate on to be able to view all SRVs and Service Responses sent to said Device by all Users. This will allow the Network Operator to view all SRVs and Service Responses on any Device they hold a certificate on via the SSI, so that they can make an informed decision on whether to action them.

The 'all Users' in the requirement title applies to the following User roles:

- Other User
- Supplier Party
- Registered Supply Agent (RSA)
- Another Network Operator
- Any future User role added after approval of the Modification Proposal

3.3 Scope

In this Modification, the term *Device* specifically applies to all Devices that are connected to the Home Area Network (HAN).

Based on discussions at the Working Group, DCC assumes that Device Alerts are not in scope of this change and, thus, Supplier Parties and Network Operators will remain unable to see Device Alerts sent to other Service Users. Other Suppliers or Network Operators should not be able to access data considered as confidential by a competitor within the SRV or Service Response payload. There should be no option to view the payload (contents) of the Service Requests, but any Service Responses related to the Service Requests will be visible.

This solution will be applicable to both SMETS1 and SMETS2 Devices.

4 Solution Overview

Changes to the DSP are required for this Modification solution.

4.1 Overview

DCC will modify the Self Service Interface (SSI) in order to allow the Supplier Parties and the Network Operators to view the titles of the Service Requests sent to the Devices they own, and the corresponding Service Responses from the Device, as described in the SECMP0141 requirements.

The information presented to the Service Users is based on the details of the transactions recorded within the SAT logs. No changes are expected to the SAT logs in terms of format or content. The access control rules of the Service Audit Trail screen will be revised to allow both Supplier Parties and the Network Operators to see all the Service Requests and Service Responses associated with the Devices they own.

Device Alerts are assumed to be out of scope of this change and, thus, Supplier Parties and Network Operators will remain unable to see Device Alerts sent to other Service Users.

For the Service User roles other than Supplier Party and Network Operator, the existing functionality will remain unchanged.

The Service Requests and Service Responses sent by other Service Users will be available only via the SSI Service Audit Trail screen. The revised access control rules implemented under this Modification will not be applicable to the reports generated based on the Service Audit Trail data.

DCC notes that the technical changes required for solution options 1 and 2 follow the same approach and, therefore, are not separated in terms of affected components and required support within this Impact Assessment.

4.2 SSI Changes

SSI will be modified to allow Supplier Parties and Network Operators to view the titles of Service Requests and Service Responses that have been associated with the Devices they own.

4.3 Security Impact

The DSP Security Assurance team has reviewed this change. There is no material impact on the DSP security implementation. The Security Assurance team will provide general security oversight of the implementation throughout, in accordance with DSP's contractual requirements:

- Review test artefacts and outcomes where there is a potential security consideration;
- Attend meetings where required by the implementation teams.
- Liaise with DCC as necessary on any security related concerns.

No additional Penetration Testing will take place as a result of this change on the basis that:

- there are no material changes to DSP interfaces;
- there are no material changes to the security implementation;
- there is no new infrastructure being introduced.

As a result of the above, there is no requirement to update the Protective Monitoring implementation.

4.4 Data Management

Data Management will be modified to provide the access control information required by SSI to decide the level of information presented to a Service User.

4.5 Technical Specifications and Documentation

There are no changes to any of the Technical Specifications.

Updates to the SEC will be required to allow the sharing of data specific to this Modification to the required parties.

SSI support materials will be updated to reflect these changes.

4.6 Infrastructure Components

There is no impact to infrastructure as part of this Modification.

4.7 Integration Impact

The SIT team will conduct testing to verify that for all devices which are owned by the Supplier Parties and Network Operators that they will have the ability to view both the Service Requests sent to the devices and the responses from the devices that may have been sent by other User Roles.

A new test scenario and test script will be created for SMETS1 and SMETS2 to view the titles of the Service Requests sent to the devices that Suppliers and Network Operators own, and the corresponding Service Responses.

A defined number of SRVs will be selected and multiple User Roles will execute those SRVs to enable validation of the functional change as part of SIT testing.

4.8 Application Support

There is no impact to infrastructure as part of this Modification.

4.9 Service Impact

The introduction of this new Service User facing functionality has some potential to result in user queries that are passed through to the DSP Applications Management Support team. It is thought that this may result in less than ten additional calls per month. A more detailed service impact will be completed as part of the CR4242 Full Impact Assessment.

No changes to SLAs or reporting are expected as a result of this change.

5 Testing Considerations

This Full Impact Assessment includes the cost to develop, fully test and deliver this SEC Modification.

5.1 Pre-Integration Testing

The DSP PIT team will design and implement the functional updates required to the DSP for the change.

System Testing will be carried out to prove that the functionality specified in the Design has been implemented against agreed acceptance criteria. Both manual and automated testing is in scope. The DSP PIT System Test team create manual tests (and data). Test execution covers manual testing and automated regression test packs.

Once PIT Complete status is achieved, the PIT team will support post PIT activities in the form of technical support and defect fixes to allow DSP to achieve its test exit obligations.

The updates to the DSP system and the timing of the PIT exit will be agreed with the DCC through updates, submission and review of the Solution Design documents.

5.2 System Integration Testing (SIT)

The expected integration activities are documented below. All testing is expected to be carried out as part of November 2022 SEC Release testing on the DSP "B Stream" environments, in accordance with existing practices for SEC releases.

The DSP System Integration Testing (SIT) team will prepare and execute tests that demonstrate the two requirements, according to either Option 1 or Option 2, noted in the change request. The nature of the SIT activities required is such that Option 2 will represent only a small additional increment on what is required for Option 1. The scope of SIT for the options comprises:

- **Option 1:**
 - Submissions of SRVs by all User Roles to a SMETS1 and a SMETS2 device set, including SRVs submitted by a previous Supplier (Electric and Gas);
 - Suppliers using the SSI function to verify that they can see all of the SRVs, as permitted by this change;
 - Pre-requisite tests to provision one SMETS1 device set and one SMETS2 device set, including the required Change of supplier;
- **Option 2:**
 - All activities, as per Option 1 above;
 - Network Operators using the SSI function to verify that they can see all the SRVs as permitted by this change.

The list of SRVs submitted to each device set will be agreed via the Heatmap that will be delivered as part of the November 2022 SEC Release.

System Regression testing and SIT Management/Governance activities are not included within the response to this CR4242 as they are expected to be covered by a November 2022 SEC Release CR.

5.3 User Integration Testing (UIT)

The DSP UIT Projects team will execute Pre-UTS testing post the successful deployment of CR4242 into the UIT test environments. The testing will comprise the running of a small number of

Service Requests to a SMETS1 meter set as the Electricity Supplier to ensure that the devices are visible in SSI to the associated Electricity Network Operator.

The above testing for SMETS1 will be repeated to cover a SMETS2 meter set.

6 Implementation Timescales and Releases

This Modification is expected to be included in a SEC Release in November 2022. Implementation timescales will be finalised as part of the relevant SEC Release Change Request.

6.1 Change Lead Times and Timelines

From the date of approval (in accordance with Section D9 of the SEC), to implement the changes proposed DCC requires a lead time of approximately **ten months**.

The broad breakdown of the testing regime is shown in the following table in months after an approval decision date (D).

Phase	Duration
SECAS agreement on scope of release	
CAN signature	D + 1 Month
Design, Build and PIT Phase	3 Months
SIT and UIT Phase, aligned with Release Dates	4 Months
Transition to Operations and Go Live	D + 10 Months

6.2 SEC Release Allocation and Other Code Impacts

This Modification is expected to be implemented as part of the November 2022 SEC Release, however the allocation to a release may be dependent on other Modification timings and the suitability of a release. No functionality overlap with other Modifications has been identified at the time of undertaking this Impact Assessment.

6.3 Costs and Charges

This section indicates the quote for all phases of application development stage for this Modification. Note these costs assume a release of just this SEC Modification without any other Modifications or Change Requests in the release, which is not truly reflective of what the post-PIT test costs or programme duration will look like. A calculation of those costs will be carried out when the contents of the future Release are finalised, and the post-PIT costs determined through a "Grouping CR" also referred to as a "Release CR".

It should also be noted that the Post-PIT costs include the effort involved in the Installation & Commissioning (I&C) of test Devices (SMETS2+) and Migration of SMETS1 test Devices required to generate the Service Audit Trail records necessary to validate the solution. If the SEC Release in which this Modification is deployed contains other changes that require I&C/ Migration during Post-PIT testing, then costs for that activity will be shared across the Release.

£	Design, Build, and PIT	Integration Testing, SIT and UIT	TTO	Total
SECMP0141 Option 1	£105,981	£46,834	£6,016	£158,831
SECMP0141 Option 2	£124,301	£68,967	£6,571	£199,839

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.
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.
Systems Integration Testing (SIT)	All the Service Provider's 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.
User Integration Testing (UIT)	Users are provided with an opportunity to run a range of pre-specified tests in relation to the relevant change.
Implementation to Live (TTO)	The solution is implemented into production environments and made ready for use by Users as part of a live service.

As part of the DCC negotiation with the DSP regarding the Contract Extension, some governance charges may be reduced for post-PIT phases. The negotiation is expected to be completed in October 2021.

6.3.1 Application Support Costs

Application Support costs have been calculated for a period of two months after the solution is implemented, and are referred to as Early Life Support.

SECMP0141 Option 1 Early Life Support	£8,015
SECMP0141 Option 2 Early Life Support	£8,346

6.3.2 Changes to the DSP Contract

The contract updates will be detailed within the CAN and will impact the following schedules:

- Schedule 2.1: Review to determine whether updates are required as a result of the new functional requirements outlined within this FIA;
- DCC Obligations will require new obligations for the DCC to achieve the deliverables under this Modification;
- Schedule 4.1: Solution Design documents will need to be updated;
- Schedule 6.1 - to reflect delivery milestones;
- Schedule 7.1: Define payments associated with Sch 6.1 milestones.

Appendix A: Risks, Assumptions, Issues, and Dependencies

The tables below provide a summary of the Risks, Assumptions, Issues, and Dependencies (RAID) observed during the production of the Full Impact Assessment. DCC requests that the Working Group considers this section and considers any material matters that have been identified. Changes may impact the proposed solution, implementation costs and/or implementation timescales.

Risks

Ref	Description	Status/Mitigation
MP141-R1	There is a risk to the availability of key resources throughout the duration of the implementation period as DSP workload reduces and resources are assigned elsewhere – potential risk to timescale and cost where resources may need to be reengaged	Accepted

Assumptions

These assumptions have been used in the creation of this Full Impact Assessment. Any changes to the assumptions may require DCC to undertake further assessment, prior to the contracting and implementation of this change.

Ref	Description	Status/Mitigation
MP141-A1	SECMP0141 will be included in the November 2022 SEC Release. The price breakdown, and work start-date is based on the November 2022 Release.	Open
MP141-A2	Device Alerts are out of scope of SECMP0141 and, thus, Supplier Parties and Network Operators will remain unable to see Device Alerts sent to other Service Users	Open
MP141-A3	The obligation on DCC to provide information to the Service Users in accordance with the requirements of SECMP0141 will be added to the Smart Energy Code.	Open

Issues

None at this time.

Dependencies

None at this time.

Appendix B: Glossary

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

Acronym	Definition
CR	DCC Change Request
DCC	Data Communications Company
DSP	Data Service Provider
EAST	Early Automated System Testing
FIA	Full Impact Assessment
HAN	Home Area Network
I&C	Installation and Commissioning
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
ROM	Rough Order of Magnitude (cost)
RSA	Registered Supplier Agent
SAT	Service Audit Trail
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SMETS	Smart Metering Equipment Technical Specification
SRV	Service Request Variant
SSI	Self Service Interface
UIT	User Integration Testing