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DP247

‘Future Dating of Service Requests for SMETS1 Devices’

Modification Report

Version 0.1

12 September 2023



About this document

This document is a draft Modification Report. It currently sets out the background, issue, and progression timetable for this modification, along with any relevant discussions, views and conclusions. This document will be updated as this modification progresses.

Contents

1. Summary.....	3
2. Issue.....	3
3. Assessment of the proposal	5
Appendix 1: Progression timetable	6
Appendix 2: Glossary	6

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1. Summary

This proposal has been raised by Rosie Davies from the Data Communications Company (DCC).

Smart Energy Code (SEC) Appendix AD 'DCC User Interface Specification' (DUIS) confirms that all Future Dated Requests for Smart Metering Equipment Technical Specifications (SMETS) 1 Devices are held by the DCC and released accordingly to meet their specified date. This means that even if a User sends a Service Request (SR) in advance of the execution date, these requests are held at the Data Service Provider (DSP) and released once the execution date and time of the request is due. Whilst there is existing functionality within DCC systems to control the rate at which these requests are released, Supplier behaviour seen by the DCC is to send the requests as on-demand requests.

The DCC has investigated Device capability with Manufacturers and advised that all SMETS1 Devices currently have some capacity to support Future Dated Service Requests, but it is prevented by the SEC.

In times of peak traffic, such as price change events, there are a large number of SRs sent through DCC systems in a very short period of time. This short-term peak in capacity usage has caused incidents for SMETS1 Service Providers (S1SP) during previous events, although work is on-going to mitigate this. Due to the short-term nature of the increased load, capacity that was provisioned to support this peak would be unnecessary at other times. This would result in an increased cost to industry with there being little benefit realised.

The Proposer argues that allowing Users to send SRs to SMETS1 Devices in advance of these events would help to smooth the peak usage on the DCC system and reduce likelihood of incidents.

2. Issue

What are the current arrangements?

Service Requests sent by DCC Users are either 'on-demand', 'future-dated' or 'scheduled'. The DCC User Interface Services Schedule (UISS) identifies these Service Requests as:

- 'future-dated' - User specifies the relevant time and date for execution (also known as "Future-Dated Services");
- 'scheduled' User sends specifies the initial time and date for execution as well as the frequency at which execution is to recur ("Scheduled Services"); or
- 'on-demand' – User specifies the SR to be executed immediately.

However, SEC Appendix AD 1.4.4 states:

Future Dating of Service Requests for SMETS1 Devices

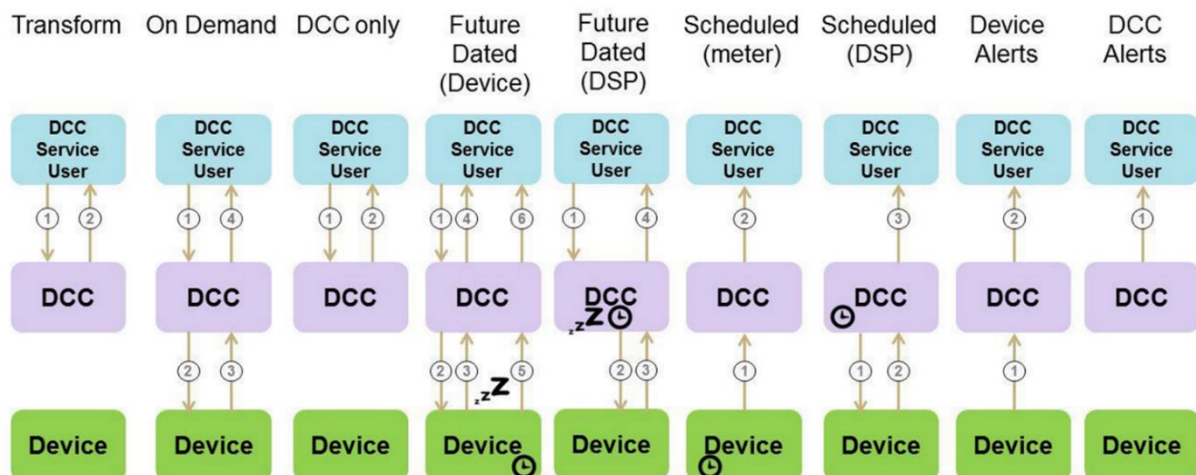
Where, as identified in clause 3.1 (Service Request Matrix), a SMETS1 Service Request has a Future Dated Response Pattern of 'Device', the DCC, and not the Device, shall undertake the required processing to implement the future dating, in line with the requirements of the Service Request Processing Document.

SEC Appendix AD categorises Future-Dated Services further:

- Future Dated Response Pattern (Device) - The DCC immediately sends the Command associated with the received SR to the Device. The Command is then stored on the Device and to be executed at the specified date/time in the future by the Device.
- Future Dated Response Pattern (DSP) - The DCC holds the SR and sends the Command to the specified Device at the specified date/time in the future.

This means that all Future Dated Requests for SMETS1 Devices are effectively Future Dated Response Pattern (DSP).

The following diagram from DCC User Gateway Interface Design Specification (DUGIDS) Section 2.3 shows the interactions between DCC Users and Devices of the variations of Service Request:



There is existing functionality within DCC systems to control the rate at which the SMETS1 requests are released to Devices, however when the volumes are very high, it takes a considerable time to run through all the SRs for that day. Current User behaviour seen by the DCC, is to send both SMETS1 and SMETS2 requests as on-demand requests, which could potentially be due to a User's mixed Device portfolio.

What is the issue?

The DCC has investigated Device capability with Manufacturers and advised that all SMETS1 Devices currently have some capacity to support Future Dated Service Requests. If Devices can receive Future Dated Service requests, it would be sensible that the SEC wording would not hinder this capability.

The DCC is currently in the process of migrating SMETS1 Devices onto their network. Once this migration is complete, it is expected there will be approximately 13-15 million SMETS1 Devices that could possibly use Future Dated Service Requests which will go direct to the Devices. Without the proposed change, these Service Requests will continue to be held with the DSP and handled as an On-Demand Service Request when the date on the Service Request is reached. This will continue to contribute to large spikes in DCC traffic.

The DCC currently has SMETS1 SMS Overage charges to support spikes in traffic, and this modification would help reduce the need for some of this.

What is the impact this is having?

There are certain periods where the DCC receives a very large amount of traffic. In a scenario where there is a price change event for example, there are a large number of SRs sent through DCC systems in a very short period of time as Suppliers seek to update pricing and/or tariff information on Devices on the same date. This short-term peak in capacity usage has caused incidents for S1SP during previous events (though work is on-going to mitigate this). Due to the short-term nature of the increased load, capacity that was provisioned to support it would be unnecessary at other times. This would result in an increased cost to industry with there being little benefit realised.

Historically, price change events occur at infrequent intervals, and Ofgem has stated its desire to move to four monthly price change events per year. While the price control event is relatively short-term, DCC has suspended specific daily reads as a mitigation.

The DCC Services, as per its licence, are managed under the Price Control arrangements, which are overseen by Ofgem and measured by the Ofgem Operational Performance Regime (OPR). If the DCC fails to meet System performance, Ofgem may determine a reduction in the baseline margin that the DCC may retain for the Regulatory Year.

Impact on consumers

There is impact on all consumers, if there is a delay in receiving the relevant tariff change SRs on time and therefore are not being charged accurately.

3. Assessment of the proposal

Areas for assessment

SMETS1 Device with Future-Dating Capabilities

The DCC has confirmed all SMETS1 Devices have future dating capabilities; however, it is unclear if all SMETS1 Devices have full or partial Future-Dating SR capabilities. This will need to be investigated more during the development stage to fully understand the scale of the issue and support the business case.

Current Future-Dating usage

The DCC noted that some Users already use future-dated SRs for SMETS2+ Devices, however the DCC is encouraging Users to move to future-dated requests as much as they possibly can. Feedback will need to be obtained to understand current User behaviour for not using SRs as future-dated more often.

Business case

SECAS questions whether industry consider it more economical to upgrade DCC System capacity now, which will accommodate large volume events such as Price Changes, as SMETS1 installations

decrease this capacity will then be available for SMETS2 messages versus industry paying for a SMETS1 system change which will then become obsolete as SMETS1 installations decrease.

Sub-Committee input

SECAS will engage the Chairs from the Operations Group (OPSG), the Technical Architecture and Business Architecture Sub-Committee (TABASC), the Security Sub-Committee (SSC), the Smart Metering Key Infrastructure Policy Management Authority (SMKI PMA) and Testing Advisory Group (TAG) to confirm what input is required from these forums. SECAS believes the following Sub-Committees will need to provide the following input to this modification:

Sub-Committee input	
Sub-Committee	Input sought
OPSG	Would this modification support reduction in system traffic and behaviour changes for Suppliers?
SMKI PMA	We do not believe this has any SMKI impacts
SSC	We do not believe this has any security impacts
TABASC	Would this modification have any Technical or Business Architecture impact?
TAG	Would this modification have any testing impact?

Observations on the issue

Early feedback

SECAS has received feedback from Parties querying why there is a request to make changes to SMETS1 Devices, as they are replaced with SMETS2 Devices due to 2G/3G sunsetting. Therefore, their numbers are going to be reducing over the next five to 10 years.

Appendix 1: Progression timetable

Timetable	
Event/Action	Date
Draft Proposal raised	12 Sep 2023
Presented to CSC for initial comment	19 Sep 2023

Italics denote planned events that could be subject to change

Appendix 2: Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

Glossary	
Acronym	Full term
CSC	Change Sub-Committee
DCC	Data Communications Company
DUGIDS	DCC User Gateway Interface Design Specification
DUIS	DCC User Interface Services
DSP	Data Service Provider
OPR	Operational Performance Regime
OPSG	Operations Group
S1SP	SMETS1 Service Provider
SEC	Smart Energy Code
SECAS	The Smart Energy Code Administrator and Secretariat
SMETS	Smart Metering Equipment Technical Specifications
SMKI PMA	Smart Metering Key Infrastructure Policy Management Authority
SR	Service Request
SSC	Security Sub-Committee
TABASC	Technical Architecture and Business Architecture Sub-Committee
TAG	Testing Advisory Group
UISS	User Interface Services Schedule