

This document is classified as **White** in accordance with the Panel Information Policy. Information can be shared with the public, and any members may publish the information, subject to copyright.

SECMP0028 ‘Prioritising Over The Air Messages’

October 2022 Working Group – meeting summary

Attendees

Attendee	Organisation
Ali Beard (AB)	SECAS
Joey Manners (JM)	SECAS
Bradley Baker (BB)	SECAS
Elizabeth Woods (EW)	SECAS
Mike Fenn (MF)	SECAS
Rachel Black (RBI)	SECAS
David Walsh (DW)	DCC
Chris Thompson (CT)	DCC
Robin Seaby (RS)	DCC
Samuel Manson (SM)	DCC
Patricia Massey (PM)	BEAMA
Eleanor Taylor (ET)	BEIS
Julie Brown (JB)	British Gas
Emma Johnson (EJ)	Centrica
Alex Hurcombe (AH)	EDF
Daniel Davies (DD)	ESG
Martin Bell (MB)	EUA
Alastair Cobb (AC)	Landis & Gyr
Gemma Slaney (GS)	National Grid Electricity Distribution
Kelly Kinsman (KK)	National Grid Electricity Distribution
Ralph Baxter (RBa)	Octopus Energy
Jamie Flaherty (JF)	Ofgem
Audrey Smith-Keary (ASK)	OVO Energy
Mafs Rahman (MR)	Scottish Power
Lorna Clarke (LC)	SMDA
Shuba Khatun (SK)	SSE Networks
Andy Knowles (AK)	Utilita
George MacGregor (GM)	Utilita

Overview

Issue

- System outages and periods of high Over The Air (OTA) message volumes going through the DCC Systems may result in message queuing and increased processing times.
- Increased processing times for messages driven by Energy Consumers (e.g. Prepayment meter top ups) could cause Consumers to be off supply for longer periods than necessary.

Proposed Solution

The Proposed Solution would establish multiple tiers of priority in the Data Service Provider (DSP) aspect of the DCC Systems that can categorise OTA messages depending on the relative importance of processing them quickly. OTA messages with a 'Priority Level 1' would be fast-tracked in any queues so that they are resolved ahead of any OTA messages with lower priority levels (subsequently higher numbers denoting lower priority).

OTA messages with lower priority levels would still be processed in the order consistent with their assigned levels. The categories that determine the priority levels will be defined and agreed during discussions with the Working Group and with input from SEC Parties obtained during the Refinement Consultation. These are the prioritisation categories as suggested by the Proposer:

Priority Level	Criteria
1	OTA messages relating to the continuity of a consumer's energy supply.
2	OTA messages which are required for an engineer to complete on-site activities.
3	OTA messages with an indirect impact on a consumer's energy supply, and/or OTA messages required to comply with a consumer request.
4	None of the above criteria apply.

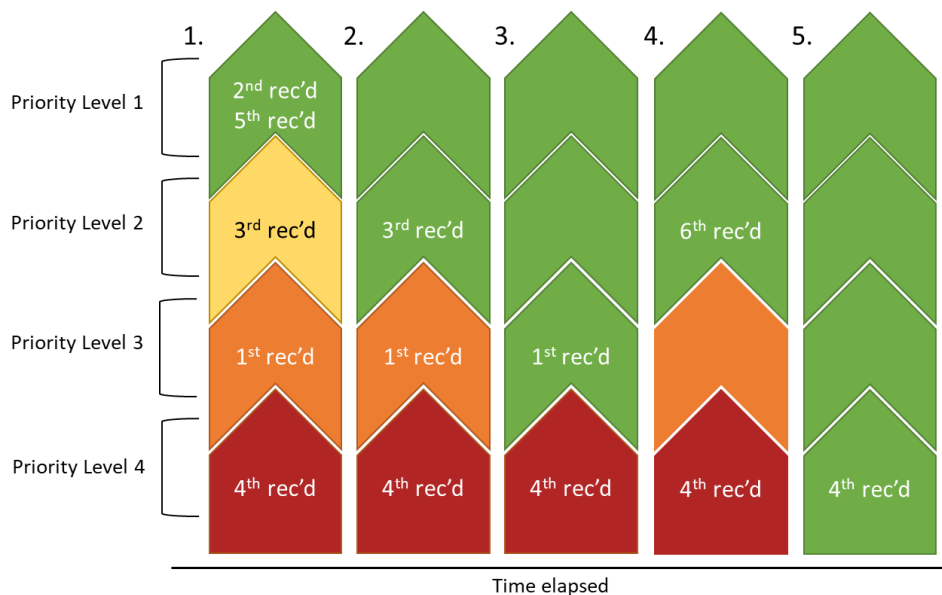


Figure 1: Proposed Solution pathway

In the event that a new process is introduced or there is a change to an existing process, certain OTA messages with a lower priority may become part of a critical pathway for an urgent process. It is therefore necessary to introduce a method by which priority levels can be reconfigured as and when appropriate. SECAS and the Proposer will engage with industry to determine which bodies or committees should have oversight for changes to the Priority Levels. This could also apply in the hypothetical instance that powers are introduced for Sub-Committees to override priority levels in an infrastructure-critical event.

Business Requirements

1. To assign a priority level to all Over The Air (OTA) messages allowing them to be processed in a specific order in the Data Service Provider (DSP) Systems.
2. To make all priority assignments fully configurable.

DCC Preliminary Assessment

Summary

- Estimated cost up to the end of Pre-Integration Testing (PIT) of £350,000 - £750,000.
- Expected timeline of 6 months up to the end of PIT.
- Based on the existing requirements, the total fixed price cost for a Full Impact Assessment is £15,260 and would be expected to be completed in 40 Working Days.

High-level solution

Currently all messages are passed from Request Manager North (RMN) to Message Gateway North (MGN) irrespective of type of message or rate limiting. In this solution, all High Priority messages (Priority Level 1) will continue to be passed straight to the MGN.

The Northbound prioritisation approach is that any Service Responses with lower priorities may be queued within the DSP to ensure that the Priority Service Responses received relating to On Demand requests are not subject to processing delays.

Where large volumes of Scheduled Responses might slow down the delivery of the Priority On Demand Service Responses, the solution shall ensure that the On Demand Responses are returned to Users before the Scheduled Responses. To achieve this, the solution shall augment the prioritisation established in a previous change, CR1344, "DSP Buffering", such that Northbound messages are treated in one of the following ways:

1. passed straight to MGN;
2. stored in the Motorway cache-based Northbound Message Store (NMS) for priority-based retrieval; or
3. stored in the Oracle-based Service User Retry Buffer (SURB).

CR1344 also implemented a specific rate limit for each Service User (SU); if a SU has notified DCC of a required lower rate it has been implemented, otherwise a default rate is used. The first option is used only when there are no high priority messages in SURB for a specific SU, and the current usage is lower than the current SU rate defined for that SU.

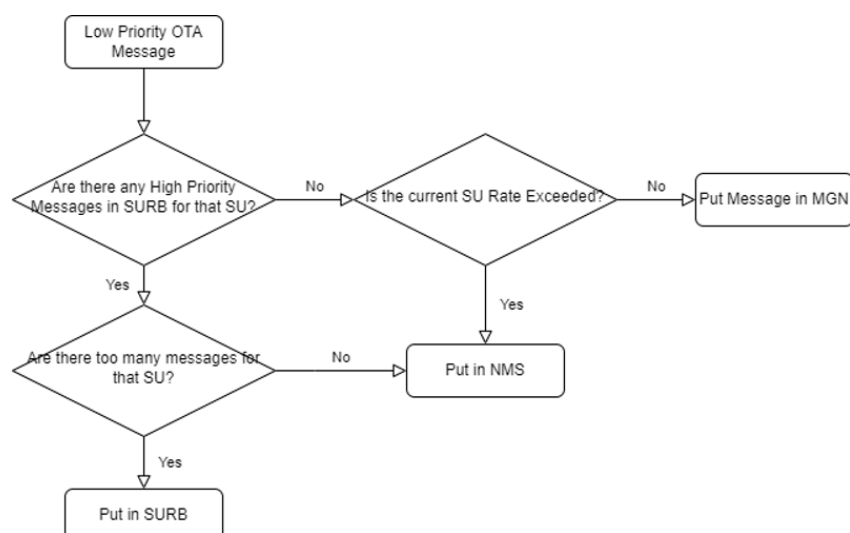


Figure 2: Northbound Prioritisation

The solution will assign a priority to all Southbound messages (based on Service Reference Variant (SRV) and mode of operation) to be used when selecting work from queues for onward transmission

to the Smart Metering Wide Area Network (SM WAN) and to prioritise delivering responses to SUs. Note that the priority determined is not recalculated when handling the Northbound response (so changes to prioritisation levels will not apply to messages already in flight).

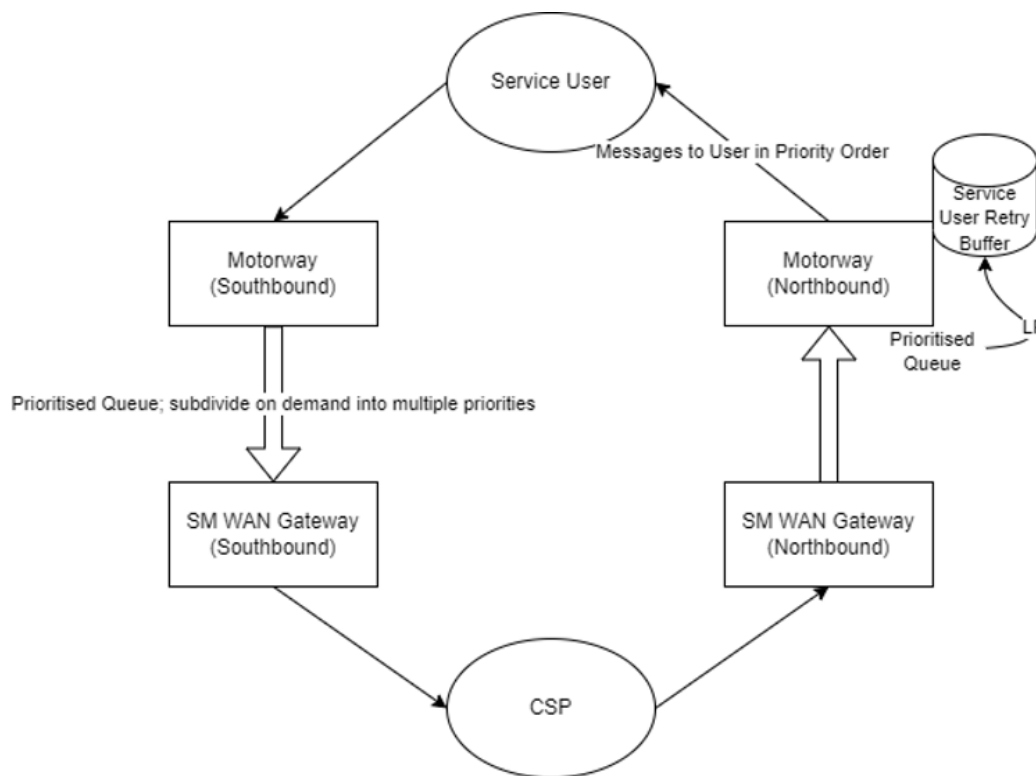


Figure 3: Northbound and Southbound Prioritisation

Working Group Discussion

Business Requirements

A Working Group member (MR) noted that usually 'Over The Air' only refers to Firmware images. SECAS (MF) and the DCC (DW) advised that this was discussed during the Preliminary Assessment and the suggestion put to the Working Group that this be changed to 'System messages', as it is intended to cover all messages in DUIS.

A Working Group member (DD) asked if SECMP0028 was only dealing with Service Requests (SRs). SECAS (MF) advised this was previously the case but that feedback from previous Working Groups and discussions with the DCC was that only prioritising SRs mean the solution would be incomplete as the Responses to those SRs could still be delayed and therefore the process wasn't prioritised. SECAS (MF) also noted that concerns were raised over prioritising messages ahead of Critical Alerts and therefore all messages should be included.

A Working Group member (RB) noted that applying it to all System messages would add complexity.

A Working Group member (JM) highlighted that message processing service level agreements (SLAs) would still need to be met and the solution could put these at risk. SECAS (MF) noted that the DCC

has previously raised this concern and suggested it could be added as a requirement of the solution that these not be impacted, however as SLAs are already based on urgency and time-sensitivity these would likely be mirrored in the assigned priority levels. JM pointed out that there isn't much variation in existing SLAs and so the modification needs to be clear whether there is a risk that the solution could cause lower priority messages to miss their SLAs.

A Working Group member (RB) suggested that another approach could be to identify the messages that are lower priority rather than competing for what is high priority. SECAS (MF) agreed to discuss this with the Proposer. RB noted this would mirror the solution design for [MP162 'SEC changes required to deliver MHHS'](#) in terms of de-prioritisation.

The Working Group member (RB) further noted that the act of giving a flag to each SR adds additional time to process them. SECAS (MF) advised this is acknowledged in the DCC's Preliminary Assessment.

Proposed Solution

Two Working Group members (RB & ASK) noted that there has been no change to the Proposed Solution to address the previous challenges brought forward by the Working Group: firstly, that different Parties will have different ideas of what is and isn't a priority, and secondly that the business case needs to be developed to show how often this issue is occurring. SECAS (MF) advised that the concerns had been noted but that more information was required from industry to answer them. SECAS (MF) advised the Modification Report has been updated to reflect the Working Group's concerns and the required information would be sought in the Refinement Consultation.

A Working Group member (MR) noted that in instances where there has been a DCC System outage the damage is already done. SECAS (MF) noted the concern and advised that while SECMP0028 will not prevent System outages it will ensure that once the System is back online the most urgent messages will be processed first.

A Working Group member (ASK) queried whether the solution only applies when there has been a System outage. SECAS (MF) advised that there is no activation mechanism and so the priority levels are present at all times, but that they would only have a noticeable impact during periods of high System traffic or when message backlogs have occurred (such as during an outage).

A Working Group member (RB) asked if the outage queue is automatically revised, i.e., is the queue constantly reshuffled during the outage? SECAS (MF) advised that the waiting messages would be subject to priority-based retrieval from their queues once the System was live again.

High-level solution

The DCC (DW) highlighted that the solution builds on existing infrastructure within the DSP System.

Preliminary Assessment summary

A Working Group member (MR) queried why SECMP0028 is so cheap to deliver, whereas smaller modifications covering smaller elements of the solution have been more expensive. The DCC (DW) advised that one reason for this is that the Preliminary Assessment doesn't include testing costs, although these are anticipated to also be quite low for this modification SECAS (MF) also noted that the solution does not include an 'activation mechanism' for the prioritisation, making it less complex than previous modifications.

A Working Group member (RB) noted that this seems like potentially good value for money, although assumed there will be additional maintenance costs associated to support the functionality. SECAS (JM) also suggested that as the solution doesn't include prioritisation in the CSP Systems this may have contributed to lower costs but may also bring fewer benefits.

Questions for the Working Group

A Working Group member (RB) noted that as the data is not available to understand the business case, currently the low cost is the only thing working in the modification's favour.

Next Steps

The following actions were recorded from the meeting:

- SECAS (MF) to work with the Proposer to develop proposed priority levels for all System messages, along with justifications for these.
- SECAS (MF) to issue a Refinement Consultation, requesting SEC Party input on the business case and preferred priorities.