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DP232 'ACB certs on I&C'

Modification Report

Version 0.2

23 Feb 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.

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1. Summary

This proposal has been raised by Chun Chen from the Data Communications Company (DCC).

A small number of production meters and Communication Hubs are failing the Install and Commission (I&C) process on-site. This is due to the Data Service Provider (DSP) not having the correct Access Control Broker (ACB) certificate for the Device. Having the correct ACB certificate initially will improve the amount of time spent an engineer is at a premise. It would also allow an efficient operation for the DCC.

2. Issue

What are the current arrangements?

What is an ACB certificate?

An ACB certificate is a security technique that regulates who or what can view or use resources in a computing environment. It is a fundamental concept in security that minimises risk to a business organisation. The installing supplier will hold a ACB certificate. The method used to put the ACB onto a Device is by a Service Request issued by the DCC (Service Request 6.24.1).

The ACB certificate allows access to a Device for the DSP. The DSP will use default manufacturing certificates to Message Authentication Code (MAC) by retrieving Device security credentials. If the default manufacturing certificate fails, then the DSP will work its way through the list of all manufacturing certificates previously published by the DCC in a specified order. If all the manufacture certificates fail, then the DSP will work its way through the list of all valid ACB certificates.

What is the Install and Commission process?

Currently, the SEC does not hold an industry definition for Install. Generally, the term is assumed to assemble and/or mount any equipment required for an energy, electricity, or gas supply.

Smart Energy Code (SEC) Section A 'Definitions and interpretations' defines the term Commissioned as: *"the Device has been commissioned in accordance with the Smart Metering Inventory Enrolment and Decommissioning Procedures or the Transition and Migration Approach Document"*. Practically this means that all Devices related to the installation are able to communicate between each other when required.

What is the issue?

The DCC has noted there are several Communication Hubs that fail the first Service Reference (SR) which adds a meter; this leads to Install and Commission (I&C) process failure on-site. The cause of this issue is due to the DSP using the incorrect ACB certificate to MAC the first Service Request because the DSP does not know which ACB certificate is in the Device.

The timeout of the ACB Certificate Request (Service Request 6.24.1) is 180 seconds with three short retries of 40 seconds. As a result, the certificate confirmation process will take more than three minutes to complete if the ACB certificate on the Device is not the first attempted certificate.

. This results in a higher I&C failure rate on site, or where a retry is required an extended I&C process.

At the time of receiving the problem statement an estimated 100 refurbished Communications Hubs have been impacted by this problem. However, as an increased security measure there has been a proposal to introduce new ACB certificates at the end of the year and from there on annual basis. Each new ACB Certificate would increase the potential retry time by three minutes for each certificate retry. This emphasises the importance of obtaining the correct ACB certificate first.

New Device certificates are required for 2023 but the rollout of the new Devices and certificates may take some time.

What is the impact this is having?

Each time I&C fails due to an incorrect ACB certificate, valuable time is lost for the engineer on site. Repeat failure can mean the Device is not able to be Commissioned and is therefore left in a de-commissioned state,

Impact on consumers

The I&C failure rate will increase in line with the number of valid ACB certificates in production. I&C failure directly impacts the consumer as they may not have a smooth experience if multiple site visits are required, or if a longer on-site installation is needed.

3. Assessment of the proposal

Areas for assessment

Are system constraints causing this issue?

The DCC is investigating a separate design change to reduce the delay caused by the certificate confirmation process. However, this will not resolve the root cause of the DSP not being able to identify which ACB certificate is on the Device. The separate DCC design change will help reduce the failure rate but will not be able to resolve the issue completely, thus the DCC cannot resolve the issue in its entirety without a change to the SEC.

Sub-Committee input

The Smart Energy Code Administrator and Secretariat (SECAS) has engaged with the Chairs from the Operations Group (OPSG), the Technical Architecture and Business Architecture Sub-Committee (TABASC), the Security Sub-Committee (SSC) and the Smart Metering Key Infrastructure Policy Management Authority (SMKI PMA) 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	To determine the severity of how the I&C affected.

Sub-Committee input	
SMKI PMA	No input required
SSC	Check any security implications of this issue
TABASC	To confirm solutions are implemented as expected – Input required for solution development

Observations on the issue

A Change Sub-Committee (CSC) member noted that if the new Certificates are entering the Supply Chain from 2023 then an earlier implementation time would be desirable. SECAS has since updated the prioritisation of the modification to achieve the earliest possible implementation time. If system changes are required, then it is likely this will not be delivered until November 2023.

Appendix 1: Progression timetable

This modification was raised on 14 February 2023 and will be presented to the Change Sub-Committee (CSC) on the 21 February 2023 for initial comment. SECAS recommends this Draft Proposal remains in the Development Stage for one month to allow feedback on the issue to be obtained.

Timetable	
Event/Action	Date
Draft Proposal raised	14 Feb 2023
Presented to CSC for initial comment	21 Feb 2023
<i>Modification to be discussed with TABASC</i>	<i>02 Mar 2023</i>
<i>Modification to be discussed with OPSG</i>	<i>14 Mar 2023</i>
<i>Modification to be discussed with SSC</i>	<i>8 Mar 2023</i>
<i>CSC converts Draft Proposal to Modification Proposal</i>	<i>21 Mar 2023</i>

Italics denote future events that may 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
ACB	Access Control Broker
DCC	Data Communications Company
DSP	Data Service Provider
DUIS	DCC User Interface Specification

Glossary	
Acronym	Full term
GB	Great Britain
GBCS	Great Britain Companion Specification
I&C	Install and Commission
MAC	Message Authentication Code
MAP	Meter Asset Provider
OPSG	Operations Group
SECAS	Smart Energy Code Administrator and Secretariat
SMKI PMA	Smart Metering Key Infrastructure Policy Management Authority
SR	Service Reference
SSC	Security Sub-Committee
SSI	Self Service Interface
TABASC	Technical Architecture and Business Architecture Sub-Committee