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MP119 ‘CH Alert Storm Consolidation’

January 2021 Working Group – meeting summary

Attendees

Attendee	Organisation
Ali Beard	SECAS
Joe Hehir	SECAS
Brad Baker	SECAS
Holly Burton	SECAS
Emmanuel Ajayi	SECAS
Rainer Lischetzki	SECAS
David Walsh	DCC
Robin Seaby	DCC
Dean Florence	DCC
Gary Bailey	DCC
Remi Oluwabamise	DCC
Graeme Liggett	DCC
Wahab Siddiqui	DCC
Chun Chen (part meeting)	DCC
Lynne Hargrave	Calvin Capital
Alex Hurcombe	EDF Energy
Robert Williams	E.ON
Alastair Cobb	Landis + Gyr
John Noad	Npower
Ralph Baxter	Octo Energy
Mahfuzar Rahman	Scottish Power
Eric Taylor	SLS
Elias Hanna	Smart ADSL
Emslie Law	OVO Energy
Daniel Davies	Utiligroup
Rachel Norberg	Utilita
Gemma Slaney	WPD

Overview

SECAS provided an overview of the issue, the Proposed Solution and discussed in detail the themes of the Data Communications Company (DCC) Preliminary Assessment. The DCC also contributed further detail to the modification.

Issue:

- Definition of an Alert Storm (as presented to the Working Group): when a Device enters a state where it repeatedly either generates or causes the generation of an Alert at a rate that was not anticipated or intended.
- Alert Storms have a negative impact on network, Data Service Provider (DSP) and Service User Capacity.
- As the number of Devices connected to the DCC System increases daily, the issue is expected to worsen (SECAS noted that the rate at which Devices are connected to the DCC System has reduced due to the Covid-19 pandemic).

Proposed Solution:

- Two options were taken to the Technical Specifications Issue Resolution Group (TSIRS):
 - Consolidate Alerts on the Home Area Network (HAN) Device itself; and
 - Consolidate Alerts on the Communications Hub (CH)
- The issue with the first option is that it would require a full redesign of HAN Devices. This would result in a lengthy lead time and would most likely involve higher costs than the second option.
- The Proposer has progressed the second option whereby Alerts will be consolidated on the CH itself.
- Communication Service Providers (CSPs) have commented that option two addresses the symptom of Alert Storms, however it does not resolve the root cause which is the HAN Devices.

Key themes of the DCC Preliminary Assessment:

- MP119 proposes a CH Alert Consolidation mechanism with the aim of controlling Alert Storm traffic across both CSP networks.
- No changes would be required to DCC User Interface Specification (DUIS) as these have already been implemented as part of [SECMP0062 'Northbound Application Traffic Management - Alert Storm Protection'](#)'s solution.
- The main beneficiary of the modification is CSP North.
- Both CSPs have been included to maintain functional compatibility and to avoid divergence.
- From a DCC perspective, the modification will require a lead time of 12 months.

Preliminary Assessment costs:

- Cost of implementation up to Design, Build and Pre-Integration Testing: £2,751,000 - £2,950,000.
- Cost of DCC Impact Assessment: £236,721 (to be completed in 50 Working Days).

Discussions

SECAS provided Working Group members with a definition of an 'Alert Storm'. This was questioned by a Working Group member as they felt it offered a level of ambiguity and should be made more stringent. They advised that an Alert Storm fulfils its definition when it causes an issue on the network. The DCC have since confirmed that an Alert Storm is defined whereby, *Device Alert Storms generate large numbers of Alerts which could impact CSP Network and Communications Hub performance. The Alert Storms can impact the performance of a CSP Network overall, slowing or even stopping the flow of other messages across a Network and possibly causing an outage.* The DCC advised that this can be found in the DCC Preliminary Assessment.

SECAS asked Working Group members if this modification should be a CSP North change only, as CSP Central & South have stated that they will receive no benefit from the change. The DCC Preliminary Assessment notes that CSP Central & South are not experiencing capacity issues at a CH or Wide Area Network (WAN) level. CSP Central & South also raised specific concerns regarding the value of the change as the CH will be subject to increased complexity without addressing the root cause of the issue. This may be addressed by next generation CHs as they will feature improved memory/processing power designs.

The Working Group commented that to answer the question, more detail would need to be provided as to how the implementation cost is proportionate to each CSP. The DCC answered this question by informing the group that the cost for CSP Central & South to implement the change is approximately half of the total cost given in the DCC Preliminary Assessment.

Concerns were raised that making MP119 a CSP North-only change, whilst reducing costs, could provide a greater risk due to divergence in CH functionality between the two CSPs. A Working Group member stated that although there would be a short-term saving, in the long-term the divergence could carry a high financial impact that would make the initial saving insignificant. This would be because of increased testing costs due to varying functionality CH between the two CSPs. It was advised that the best way to keep costs at a minimum moving forward, is to keep CH behaviour across the CSPs as consistent as possible. The Working Group agreed that it would prefer to have a solution that incorporates both CSPs.

The Working Group discussed the relationship between MP119 and SECMP0062. Members were frustrated that during SECMP0062 Working Group sessions, it was flagged that the Alert Storm issue should be addressed at the source (HAN Device), however it was proposed that consolidating Alerts at Data Service Provider (DSP) level would provide an adequate solution as it would cover all Devices. A SECMP0062 Working Group summary (15 November 2018) also highlighted that the DCC informed members that neither of the CSPs expressed concerns with large numbers of Alerts being sent over their networks. A Working Group member stated that if concerns were raised at the time, SECMP0062 would not have been approved.

Many members of the Working Group were frustrated that SEC Parties approved SECMP0062 on the basis that the issue would be resolved (including a CH solution), without another modification subsequently being raised. If approved, MP119 may negate SECMP0062'S solution. It was agreed that a piecemeal approach to resolving the issue is not beneficial as it adds further complication with added expenditure.

Working Group members expressed further concerns that the path of the modification implies that SEC Parties will have to pay for a modification that will address CSP North's issues surrounding Alert processing targets, while Service Users receive no material benefit.

It was agreed that due to a raft of changes anticipated to be made by CSP North to their system, the modification should be presented to the Smart Metering Delivery Group (SMDG) to better understand if this change should be incorporated into these amendments, or remain a SEC Modification. A concern is that if MP119 is implemented, it may have a detrimental impact on wider improvements made to CSP North's systems.

A Working Group member applauded the work undertaken by TSIRS to identify ambiguity in the Technical Specifications which has resulted in this issue.

Next Steps

The following action was recorded from the meeting:

- The modification will be presented to the SMDG to discuss whether the issue will be resolved under large scale changes to CSP North's systems, or continue as a SEC Modification.