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MP119 'CH Alert Storm Consolidation' Business requirements – version 0.3

About this document

This document contains the business requirements that support the solution(s) for this Modification Proposal. It sets out the requirements along with any assumptions and considerations. The DCC will use this information to provide an assessment of the requirements that help shape the complete solution.

1. Business requirements

This section contains the functional business requirements. Based on these requirements a full solution will be developed.

Business Requirements	
Ref.	**Requirement**
1	A mechanism will be included within the Communications Hub (CH) to prevent the onward transmission of alerts storms to the Wide Area Network
2	The CH will identify when a Device/Alert code combination exceeds a defined threshold
3	When a threshold is exceeded the CH will begin consolidating the specific Device/Alert code
4	Both DCC and Service Users require to be informed when Device Alerts are being consolidated
5	Alert Storm Consolidation will be complementary to the SECMP0062 solution and will utilise the same reporting and notification mechanism to Service Users
6	Reporting for MP119 and SECMP0062 shall be provided separately
7	MP119 solution to include an Alert exclusions list

2. Considerations and assumptions

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

Smart Devices can enter a state whereby they repeatedly generate the same Great Britain Companion Specification (GBCS) Alert and this may be generated at a higher rate than intended. This scenario is referred to as a Device Alert Storm.

The solution for SECMP0062 involves an Alert Storm Protection mechanism which is implemented within the Data Service Provider (DSP) solution that detects these Device Alert Storms. The identified Alerts are subject to consolidation which results in a substantial reduction in the number of Alerts being processed and delivered to Service Users. This same approach will be used for MP119 but at a CH level.

2.1 Requirement 1: A mechanism will be included within the Communications Hub (CH) to prevent the onward transmission of alerts storms to the Wide Area Network

The mechanism to be included within the CH will provide multi-level protection for DCC Users against Alert Storms. It has been identified that the root cause of Alert Storms is at the Home Area Network (HAN) and CH level. This will enable Alert filtration to take place before reaching the DSP.

2.2 Requirement 2: The CH will identify when a Device/Alert code combination exceeds a defined threshold

The threshold is based on a count within a rolling time period. This will be determined using configuration parameters in a similar manner to SECMP0062. An initial example is shown in the table below:

Example Parameters		
Configuration Parameter	**Example Value**	
Alert Code Specific Rolling Window (time period)	60 minutes	Yes
Alert Code Specific Threshold	20	Yes
Alert Storm Protection Discarded Alert Limit (1 in N)	500	Yes
Alert Storm Protection Maximum Time Limit	1440 minutes	Yes
Alert Storm Protection Deadband Period	24 hours	No
Alert Storm Protection Exclusion List (example)	To be agreed and based on solution options	Yes

2.3 Requirement 3: When a threshold is exceeded the CH will begin consolidating the specific Device/Alert code

Alerts will be consolidated on a per Alert code basis when a specified Alert is exceeded. Under the consolidation rules only 1 in *n* alerts will be transmitted via the Wide Area Network (WAN) interface. These forwarded Alerts will be accompanied by additional metadata that indicates the count of forwarded Alerts (*ThrottledAlertSequenceId*) and the number of Alerts that have been consolidated

since the last forwarded Alert (*ThrottledAlertCount*).The parameters for this mechanism will be similar to those in SECMP0062 (please see table in 2.1).

2.4 Requirement 4: Both DCC and Service Users require to be informed when Device Alerts are being consolidated

Both the DCC and Service Users will still need to be notified when an Alert Storm has occurred and Alerts are being consolidated. This can be achieved through the DUIS with the changes to alert formats proposed for November 2019 under SECMP0062 Part 2.

2.5 Requirement 5: Users require a reporting and notification mechanism

User reports will be generated by DCC in a similar format to those for SECMP0062.

2.6 Requirement 6: Reporting for MP119 and SECMP0062 shall be provided separately

Providing separate reports will give greater clarity for SEC Parties as it will be clear to see at what level Alerts are being consolidated.

2.7 Requirement 7: MP119 solution to include an Alert exclusions list

The Alert Storm configuration within the CH will contain a list of Alerts that will not be subject to this mechanism. This list should be capable of being updated at any time and will not be hard-wired into the System.

The list of Alerts that will be exempted from filtration or subject to different levels of throttling will be determined at a later time. Once in place, this will be monitored and amended by the SEC Operations Group. The governance will be determined during the Refinement Process.

Diagram of Alert Storm consolidation at CH level and DSP level.

3. Glossary

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

Glossary	
Acronym	**Full term**
CH	Communications Hub
DCC	Data Communications Company
DSP	Data Service Provider
DUIS	DCC User Interface Specification
GBCS	Great Britain Companion Specification
HAN	Home Area Network
SEC	Smart Energy Code
SSI	Self-Service Interface
WAN	Wide Area Network