Data Communications Company

Conclusions

On the proposal to remove the 0x8F75 Alert from the Traffic Management Mechanism Document

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1. Introduction and Context

1. The Data Communications Company (DCC) is Britain's digital energy spine, supporting the transformation of the energy system. DCC is licensed by the Government and regulated by the energy regulator Ofgem to connect smart meters in homes and small businesses across Great Britain to a single, secure, digital network. DCC supports the roll-out and operation of second generation (SMETS2+) smart meters, as well as the migration and operation of existing first generation (SMETS1) meters onto our network.

1.1. Background

2. Smart Energy Code (SEC) Modification Proposal SECMP0062[1], implemented in May 2020, introduced a mechanism for the management and throttling of Alerts deemed spurious. This mechanism reduces the volume of unnecessary Alerts sent across the Smart Metering network and handled by the DCC Total System.

3. The Traffic Management Mechanism Document was introduced by SECMP0062 and is a list of Alerts excluded from the throttling mechanism. Any Alert Code in the exclusion list will never be subject to Alert Storm protection meaning all Alerts with that code are communicated to recipients.

4. Distribution Network Operators (DNOs) have escalated to both the SEC Operations Group (OPSG) and DCC that they wish Alert 0x8F75 'Unauthorised Physical Access – Strong Magnetic field' to be removed from the exclusion list, and for that Alert to be subject to throttling as set by the existing configuration parameters. Their rationale is that the Alert 0x8F75 is unnecessarily repetitive and the volume being received is relatively high. The origin of such Alerts is believed to be caused by strong magnetic fields generated by household electronic equipment (Wi-Fi routers, Hi-Fi wireless equipment, etc.) in the vicinity of an Electricity Smart Metering Equipment (ESME).

5. By removing the 0x8F75 Alert from the exclusion list, the Alert will be passed to SEC Parties and be subject to throttling using the existing parameters as defined in the Traffic Management Mechanism Document.

6. The Known Remote Party, and hence the Alert recipient, for 0x8F75 is the Wide Area Network (WAN) Provider (for the Communications Hub Function (CHF) only), and both the Supplier and the Network Operator (for ESME only). Considering that 0x8F75 Alerts are not only targeted to the Network Operators, for instance, an ESME would send one 0x8F75 Alert to its registered Energy Supplier and one 0x8F75 Alert to its registered Network Operator.

7. On 31 August 2023, an industry consultation was published to obtain feedback on a proposed change to remove the Alert from the exclusion list. The existing Data Services Provider (DSP) Traffic Management Mechanism configuration will need to be changed to support this proposal.

2. Consultation Questions & Responses

8. The consultation asked the following question:

Q1	Should the Alert 0x8F75 'Unauthorised Physical Access – Strong Magnetic field' be removed from the exclusion list, meaning this Alert will be subject to throttling when specific parameters are met? Please provide a rationale for your views.

[1] https://smartenergycodecompany.co.uk/modifications/northbound-application-traffic-management-alert-storm-protection/

9. DCC received a total of six written responses from:

- Two Large Suppliers
- One Small Supplier
- Three Electricity Networks

10. All six respondents supported the removal of Alert 0x8F75 from the exclusions list. Respondents noted the current volumes of this Alert to be unnecessary, and provide little benefit from being sent at the frequency they currently are.

11. One respondent highlighted that the Alert is not fully understood and is temperamental in nature. They added that the Alert is seen to be sent in bursts, and sometimes consistently, without any understanding as to why they are generated.

12. Two respondents advised the number of Alerts they currently receive, with one receiving over 100,000 in one day with these originating from less than 60 individual Devices. The other respondent advised they had received nearly 900,00 in one week and added that they had found examples where the number of Alerts generated by a few Devices averaged around one Alert per second.

13. Respondents highlighted that they would still receive the Alert if it were removed from the exclusions list and therefore still receive the notification. However, the traffic management system would prevent the huge volume of Alerts being processed unnecessarily and stored within backend systems. One respondent added this could contribute to the overall reduction of traffic passing through the DCC.

3. Further industry feedback

3.1. Industry feedback

14. Following the consultation, DCC sought views from the following industry groups and SEC Sub-Committees, all of which agreed with the proposed change:

- Technical Specification Issue Resolution Subgroup (TSIRS)
- Design Release Forum (DRF)
- Operations Group (OPSG)
- Security Sub-Committee (SSC)
- Technical Architecture and Business Architecture Sub-Committee (TABASC)

15. The TSIRS and the DRF reviewed the DCC's proposal and offered support for the change. They did not anticipate any negative impact.

16. The SSC was supportive of the change and could not identify any security risks linked to it. This group agreed for the proposal to go ahead as long as approvals were provided by the OPSG and the TABASC.

17. The OPSG and the TABASC agreed for the proposed mitigation solution to go ahead to address the unnecessary WAN network traffic produced by the 0x8F75 Alerts. The TABASC also wanted DCC to run a root cause investigation to understand why a small group of ESMEs were generating such a high volume of alerts. DCC agreed to this request and has since commenced this activity.

3.2. SEC Panel engagement

18. On 23 January 2024, DCC presented the SEC Panel with the DCC's proposed amendments to the Traffic Management Mechanism Document and the proposed removal of the 0x8F75 Alert. This included a summary of the consultation responses and industry feedback. The Panel approved the change in accordance with clause 17.10 of SEC Appendix AB 'Service Request Processing Document' and requested that DCC present a 'back out' plan to the Panel at the next meeting. DCC has since put a back out plan in place and it will be presented to the Panel in due course.

4. Next Steps

19. On 26 February 2024, DCC deployed a daily Alert monitoring report to evaluate 8F75 Alert volumes, as well as the configuration change to the Alert Management Mechanism to remove Alert 0x8F75 from the DSP exclusion list. As a result, Alert 0x8F75 will be subject to buffering during an Alert Storm. DCC will continue to monitor the Alert for one more month to evaluate any negative impacts.

20. DCC will also update the Traffic Management Mechanism Document to reflect the removal of the Alert from the exclusion list and publish it on the Smart Energy Code website. The Smart Energy Code Administrator and Secretariat (SECAS) has also agreed to move the document from a SEC branded template to a DCC branded template. This is considering Clause 17.10 of SEC Appendix AB 'Service Request Processing Document' requires DCC to consult and seek approval of any changes to this document, not SECAS.

5. Attachments

- Attachment 1: Traffic Management Mechanism Document v3.0 (Tracked Changes)