



Communications Hubs and Network Programme Conclusions on the 4G Communications Hub Dimensions Consultation

DCC Conclusions on the consultation on the physical
dimensions for 4G Communications Hubs

Date: 13.04.2023

Author: consultations@smartdcc.co.uk

Classification: DCC Public

Table of Contents

- 1. Introduction and Context 3**
 - 1.1. Background 3**
- 2. Analysis of Consultation Responses 3**
 - 2.1. Responses 3**
- 3. Next Steps 5**

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 of second-generation (SMETS2) smart meters, as well as the migration of existing first-generation (SMETS1) meters onto our network.

1.1. Background

2. Telecommunications technology evolves continuously and in response to this DCC's Communications Hubs and Networks Programme (CH&N) aims to deliver future-proof Communications Hubs & Networks with an efficient supply chain and a targeted longevity of at least 15 years, introducing new Communications Hubs (CHs) which use the newer 4G network.
3. Smart Energy Code (SEC) Section F4.12 requires DCC to consult with Parties prior to the procurement of any CHs with Home Area Network (HAN) or Wider Area Network (WAN) Variants that have not previously been made available.
4. As part of CH&N, DCC is designing and procuring a new Long-Term Evolution (LTE) 4G connected Communications Hub Service that will replace current 2G and 3G services which are expected to be retired by 2033.
5. On 10 February 2023, DCC issued a consultation to seek views on the physical dimensions of 4G CHs.

2. Analysis of Consultation Responses

2.1. Responses

6. DCC received written responses from seven parties: six Energy Supplier Parties and one Other SEC Party.
7. DCC sought views on 4G physical dimensions asking: "Do you have any comments on the physical dimensions for the 4G Communications Hubs? Please provide your rationale."

Respondents' Views

8. One respondent appreciated the opportunity to comment on the dimensions but noted that the consultation did not provide any supporting information: specifically, the dimensions of the current Single and Dual-Band CHs. They also considered that 4G CHs need to be designed in such a way that they can operate with the Smart Metering Equipment Technical Specification 2+ (SMETS2+) Electricity Smart Metering Equipment (ESME) already deployed, without any need for derogation from the Intimate Communications Hub Interface Specification (ICHIS). Moreover, the respondent considered these fundamental requirements must be satisfactorily resolved before any decision can be made in respect of the size of the 4G CH.
9. Two respondents expressed support of the proposal that the physical dimensions for 4G CHs will remain unchanged from the current 2G/3G Toshiba Cellular Only Dual Band Communications Hub (DBCH) used in the Communications Service Provider Central & South Region (CSP C&S). One noted that they have experienced very few issues installing the current DBCH and therefore keeping the sizing consistent for 4G CHs will allow a relatively easy transition.
10. The other respondent agrees with the proposed dimension alignment for the purposes of the Minimum Viable Product (MVP). However, they requested that DCC confirm that lessons learned activities have been carried out to ensure that issues seen previously can be prevented. An example

of this would be the interface with the meter where screw length differences between meters had not been accounted for in the design and insufficient/unclear guidance was presented in the Interface Requirements documentation. In relation to this, the respondent requested confirmation on whether there are any proposed changes to the interface.

11. Five respondents considered there to be benefits for 4G CHs to be smaller than the standard DBCH, with one respondent noting that this could facilitate installation in tight physical spaces. Another respondent noted that, at the very least, 4G CHs should be the same as the Toshiba/WNC equivalent, as, if they are any bigger, it could cause issues where 2G/3G CHs currently fit in premises. They highlighted that space can be at a premium on a meter board and smaller 4G CHs could therefore reduce the risks of aborts due to space issues. The respondent also considered that the Toshiba CH needs to be improved regarding how it slots onto the ESME as they have found the Toshiba CH to be loose on certain ESME models.
12. Another respondent noted that there are sometimes challenges associated with Alternative Home Area Network (Alt HAN), and sometimes non-Alt HAN, installations related to spatial constraints for individual meters or in 'crowded meter rooms'. Therefore, they noted that it is important that the design of equipment maximises the opportunity for Energy Suppliers to enable smart installations utilising whatever equipment is necessary to deliver the HAN. The respondent highlighted piloting work that seeks to test the viability of resolving 'crowded meter rooms' and assumes space requirements that accounts for the existing size of a DBCH. They noted that if the 4G CH design deviates from these dimensions this may impact upon resolutions. They also need to ensure that the same assumptions related to clearances around the ESME hold true as they would require access to 4G CHs for testing as well as relying on DCC to confirm the ICHIS testing and assumptions remain valid.
13. One respondent noted that any proposal for a reduction in size, at this comparatively late stage in the programme, will be accompanied by very significant costs, as all 4G CH design and testing would need to be repeated. They considered that a reduction in size should have been costed as part of the 4G procurement process. Furthermore, they noted that although it might be useful to have a Rough Order of Magnitude cost from DCC indicating what could be achieved in a Reduced Height CH, they anticipate that the cost would be totally unjustified for the ensuing industry benefits.
14. Another respondent noted that they do not have the data to share with DCC that evidences the number of aborts impacted by CH size or lack of space on the meter board. However, they noted that engineers in the CSP North Region often install a DBCH as it is slightly smaller than the SBCH and more reliable.

DCC Response

15. DCC notes that the actual physical dimensions were not provided in the consultation document, and these can be found on the Toshiba Cellular DBCH datasheet published on the DCC Website¹. The dimensions are as follows:
 - Height from bottom face: 85mm
 - Height from ICHIS datum: 73.2mm
 - Depth: 65mm
 - Width: 130mm
16. DCC notes the comments received on the technical requirements of the 4G CH in addition to those received on the physical dimensions. We share the view on the importance of compatibility with existing SMETS2+ and will work closely with customers through testing and Initial Pallet Validation

¹ DBCH - [Toshiba Cell Only DBCH Datasheet](#)

(IPV) to ensure the widest possible ranges of Device Model Combinations are utilised. DCC also notes the piloting work being undertaken in relation to Alt HAN and 'crowded meter rooms' and can assure that interoperability with 4G CH and Alt HAN devices will be tested.

17. DCC can also confirm that lessons learned activities from previous programmes, such as DBCH delivery, have been considered prior to 4G CH procurement and Low-Level Design (LLD). Further technical detail on the 4G CH will be shared with industry in a suitably digestible format following the completion of LLD including interface requirements and an initial view on ICHIS amendments. This is expected in Q2 2023 and with collaboration with industry planned to reach the final position on ICHIS changes at the end of Pre-Integration Testing (PIT) in Q1 2024.
18. DCC notes comments received regarding fitting and screw length installation issues with 2G/3G Toshiba CHs with existing ESME and is aware of one incident raised via the Incident Management Process which has been accepted as an issue with the ESME. We also note that the 4G CH will comply with all relevant sections of the ICHIS and there is no current intention to make changes in relation to securing the CH to an ESME.
19. DCC appreciates the respondent's views on the potential benefits of smaller physical dimensions and agree that this should be assessed following MVP delivery of 4G CHs. We recognise that a future proposal requires significant consideration on cost and benefits to industry and commit to further collaboration on this matter.

3. Next Steps

20. DCC has published this conclusion report on the DCC Website and will continue to engage with industry on physical requirements following the completion of the LLD.