# DCC Boxed
# Product Description

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# 1.  This document

This document sets out some standard information about DCC Boxed. This is not a legally binding document but may be referenced as part of the other product terms and conditions.

Any capitalised term in italics is a defined term, and has its meaning outlined in the latest version of the Smart Energy Code (SEC).

# 2.  Introduction

## 2.1.  What is DCC Boxed?

DCC Boxed is the DCC infrastructure, in the palm of your hand.

DCC Boxed emulates the DCC, smart metering network in a self-contained environment, without impacting or connecting to the live environment. DCC Boxed is a product that you can take home with you to conduct multiple scenario analysis to meet a number of different user needs.

It is a standalone kit comprising both software and hardware components.

## 2.2.  Who is DCC Boxed for?

DCC Boxed is available to purchase by any SEC Party or testing participant, as per the regulatory delivery of this product by DCC and our stakeholders.

You can find out more information on what a SEC Party is and how to become a SEC Party on the SECAS website at smartenergycodecomapny.co.uk/becoming-a-sec-party.

If becoming a SEC Party is not an option for your organisation, you may be able to access DCC Boxed as a testing participant. To find out more information on what a testing participant is and if this applicable for you, please contact the DCC Service Centre.

## 2.3.  What is the purpose of DCC Boxed?

DCC Boxed was built by the DCC to improve the way we develop, test, and understand the solutions to various problems. Through development of this product, we realised it would also be used for the same purpose by our stakeholders and customer base. The purpose is therefore to allow all DCC Stakeholders to benefit from this product, in the same way we do internally at DCC, generating benefits.

# 3.  Product Overview

## 3.1.  Detail about use of the product

DCC Boxed is a product that emulates the DCC infrastructure, in a non-regulated environment, so that users can understand how things interact across the network. DCC Boxed can therefore test a multitude of scenarios in a risk-free, standalone, creative environment. It does not touch or interact with the live network or DCC's core operations in anyway.

## 3.2. Detail about the product kit

DCC Boxed is fundamentally comprised of the following pieces of equipment:

**Included as standard:**

✓ A Mini-PC or NUC: This is the core part of DCC Boxed and will host and run the application.

✓ A USB Hub: This enables you to connect other devices to the Mini PC, in order to interact.

✓ Connecting Cables: Power cables for the NUC and USB hub.

✓ Zigbee Traffic Sniffers: These allow you to understand the messages you are simulating through use of DCC Boxed.

**Optional Extras:**

✓ Zigbee-enable Microcontrollers or Emulators: These enable emulation of the type of devices typically connected to the smart meter ecosystem. It includes: ESME's, GSME's, CAD's/ IHD's, PPMID's, SAPC's, HCALCs and HHT's

✓ GFI Comms Hubs: This allows you to replicate a Comms Hub in the Boxed environment

✓ Wired Instrumented Test Communications Hub (WITCH): to establish a Home Area Network using a 'real' communications hub

Whilst not all the equipment is required to use DCC Boxed, we recommend it as standard kit. A standard kit is comprised of the Mini PC (which is essential), the USB Hub and a single Zigbee sniffer, (we also recommend additional emulators to interact with, which can be purchased separately).

## 3.3. How to use DCC Boxed

DCC Boxed comes with its own user guide. This user guide is built into the online interface and appears as a separate web browser tab. This guide talks you through some suggest first steps, as well as each component part of the product.

DCC Boxed also comes with an unboxing guide, which will talk you through set up of the product. This includes what you receive, in what order to plug in and when to power on, as well as navigation to the graphical user interface and the online user guide itself.

Once DCC Boxed is working, you can use the product in the way that suits you, provided that it doesn't contradict anything in our Policy Document or Enabling Services Agreement for DCC Boxed.
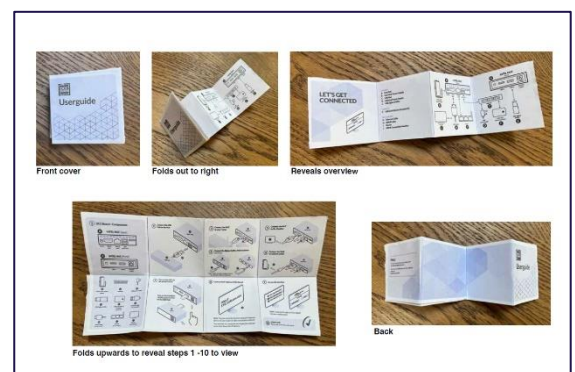


An internet connection is required to download new the latest updates for the product, its inbuilt user help guide and Graphical User Interface.

## 3.4. Features & Capabilities

DCC Boxed has the following key features and capabilities:

✓ DUIS Interface – Submit service requests, translate DUIS requests to GBCS commands

✓ SMKI interface – Generate new certificates and validate organisation and device certificates

✓ Dashboard – Web Graphical User Interface (GUI): Main page, SMKI, DCC Gateway, Devices information

- ✔ Emulated HAN – CH will be developed to replicate HAN allowing message interchange
- ✔ Emulators on a stick: ESME, GSME, HHT, IHD, CAD, HCALCS, SAPC, PPMID, CH Driver.
- ✔ Zigbee Sniffers on a stick – Capture ZigBee traffic for debug and study purpose
- ✔ GBCS Sniffers – Allow visualisation of GBCS payload
- ✔ DUIS sniffers – Allow GBCE payload to be decoded
- ✔ E2E Kit Orchestrator – Configure the emulated/ physical devices to set up, phantom load control
- ✔ User Guide – Help content on how to use the tool

## 3.5. Limitations

DCC Boxed has the following key limitations:

a. DCC Boxed does not emulate any activities performed within the Smart Metering Systems Communications Service Provider's (CSP) or Data Service Provider's (DSP) production systems. It only follows the specifications for inputs to and outputs from these systems.

b. The amount of diagnostic information and performance that can be obtained from DCC Boxed exceeds that which can be obtained from "real" devices.  For example, latency is shorter in DCC Boxed.  Participants should be aware that DCC Boxed is not wholly representative of "real world" testing outcomes.

c. The DCC Boxed graphical DUIS Interface contains a limited quantity of pre-defined service requests variants.

# 4. Use Cases

DCC has pulled together, what we believe would be some suitable uses for this product. However, as this is a flexible tool, we don't believe we have all the answers, these therefore only provide a flavour for you:

1. DCC Boxed can enable testing of new versions of GBCS and DUIS for every DCC Boxed customer

   o So that DCC Boxed customers are informed about the changes, can get some time interacting with them and understand impact on their systems / processes – it also offers the possibility of early bug identification.

2. DCC Boxed can enable development and testing of DCC adapters

   o So that Adaptor providers can create changes to support upcoming releases before go live, prototype new functionality and generally be more informed.

3. DCC Boxed can facilitate training for suppliers and device manufacturers

   o So that supply chains and partnering firms can use representative systems in the production of their products and services e.g. training can be performed against a system that is representative of DCC rather than an approximation.



4. DCC Boxed can facilitate field force training such as for meter installers

Data
Communications
Company

- o So that installers can be more informed and effective in day-to-day roles by honing procedures and understanding the importance of sequencing in commissioning flows

5. DCC Boxed can enable the study and development of GBCS devices

- o So that devices can be more efficient and smartly developed, with fewer issues and higher quality.

6. DCC Boxed can enable the study and development of DUIS/ MMC protocol stacks and tools with hardware in the loop

- o So that there is a joined-up view between our user interface DUIS and devices, currently we focus on either DUIS or Device and then see the result of integration in our regulated environments, having an end to end system would help all parties understand.

7. DCC Boxed can enable the study and development of Zigbee SEP devices, compatible with SMIP

- o So that devices can be more efficient and smartly developed, with fewer issues and higher quality. We will be able to see effects (in real time) of devices within the HAN e.g. message flows, issues etc.

8. DCC Boxed can train newcomers to the SMIP programme

- o So that new staff can quickly be brought up to speed and understand the ecosystem

9. DCC Boxed can demonstrate end to end communication with the SMIP

- o So that stakeholders understand the full ecosystem and its component parts

10. DCC Boxed can facilitate new devices and product testing

- o So that new types of devices and solutions can be realised for customers

11. DCC Boxed can facilitate the testing of new scenarios

- o So that more eventualities can be prepared for and managed/ mitigated in advance



12. DCC Boxed can support analysis when assessing impact of changes on the end-to-end system

- o So that when changes do occur, they are better prepared for and managed

13. DCC Boxed can facilitate understanding of how the SMIP HAN works

- o So that stakeholders are more informed and can make better decisions

# 5. Service Management

## 5.1. Ordering

DCC Boxed, can be ordered via the DCC Website. From the website, you will be prompted to complete a form which details which components you want, as well as some details about you, in order that you are given the right service. You will also be instructed on the precise process to complete, and DCC will respond to you directly if we have any further clarifications required.

Please note that certain additional components have existing processes through which to order those products. These items will follow their existing process, already established, this includes for GFI Comms Hubs and WIRED ITCH.

## 5.2.  Onboarding (Becoming a SEC Party)

DCC Boxed is only available to SEC Parties. If you are not already a SEC party, you will need to register to become one. Similarly, if you are not already a DCC Onboarded User, you will be required to onboard so that we can correspond and resolve any issues for you (please note this is not the full DCC User onboarding process, it is simply to ensure we have some nominated contact details, in order to support any requests you may have).

To become a SEC party you need to complete 3 simple steps, as outlined on the SECAS website at smartenergycodecompany.co.uk. DCC requires you to become a SEC party because DCC Boxed is provided at cost, this means it is as cheap as possible, for those who have contributed to the cost of the smart meter network.

The steps to become a SEC party as outlined on the website are as follows:

1.  Submit an application forum to the SECAS helpdesk, including the £540 application fee

2.  Receive accession agreement from SECCo, to be returned signed by email

3.  Receive countersigned agreement from SECCo, as well as party signifier

DCC will check to ensure that you are a registered SEC party before we process your request to purchase a DCC Boxed unit.

## 5.3.  Onboarding (to DCC)

If you are not a DCC User, to interact with our Service Centre efficiently we will require you to provide some light touch details to us. The details we will require from you include:

-   SEC Party ID

-   Nominated Contact

We will collect these details, as part of your first contact with DCC, if you aren't an already registered DCC User, who we have interacted with us previously.

Please note, if you are onboarding to DCC as a testing participant, who isn't a SEC party, we may require further information from you.

## 5.4.  Security

As DCC Boxed is its own separate environment, which is not connected to the DCC Total system, there is a minimal security threat associated with this product to the smart metering network. The OS is also locked down using a Linux Server distribution installed as bootstrapper on Mini PC and hardened as per CIS benchmark level 1. DCC Boxed device cannot be used as a PC for any other PC activity and acts as a server for hosting the DCC Boxed app only.

To ensure, your product remains safe and secure, DCC does have our own security updates page, which can be accessed on the following page: smartdcc.co.uk/DCCboxed. This page allows you to ensure each component being used has the latest updates applied, beyond those managed through the inbuilt platform manager as part of the DCC Boxed user interface.

## 5.5.  User Guide

DCC Boxed, comes with its own user guide. This user guide is built into the online interface and appears as a separate web browser. This guide talks you through some suggest first steps, as well as each component part of the product. DCC Boxed is design to be simple to use and for users to be able to self-serve themselves.

## 5.6. Getting Support

DCC Boxed has been designed to be a self-serving product. It has an intuitive interface and an inbuilt user guide, to aid the users of the product. However, DCC recognise that users may still have queries or issues that require direct support from DCC or our partners. There are mechanisms to access this support, as described below.

DCC only offers a basic level of support as standard, this is offered on a reasonable endeavour's basis. This is inclusive of the price of your DCC Boxed purchase. This basic level of services includes the following:

- ✓ Support with ordering and payment for DCC Boxed

- ✓ Support of how to download bug fixes, patches and updates

- ✓ Support with the process for product returns

- ✓ Coordination of specialist support for more in-depth technical queries during the warranty period. (for out of warranty support, see below)

If your concern falls into one of the above categories, and in particular if you have a fault with your product and require support from DCC staff, you can get in touch with us regarding your product. This is outlined in the 'Support' section of our user guide.

In the user guide section, you will be directed to get in touch with the DCC service centre. This will also outline what detail is required from you, in order that we can effectively respond to your stated issue.

## 5.7. Hardware Warranty & Returns

During the first twelve (12) months following delivery of the DCC Boxed unit (the "Delivery Date"), the DCC will provide a hardware warranty in accordance with Schedule 2 - DCC Boxed Terms and Conditions, that covers the all following hardware components of the DCC Boxed:  provides a 12-month warranty period for DCC Boxed and its associated component parts. the Mini-PC or NUC; the USB Hub; Zigbee Traffic Sniffer dongles and Zigbee-enabled Microcontrollers and Emulators. No warranty is offered on software.

Outside of the warranty period, the Participant can return the product, which will be assessed and an estimated cost to fix provided to the Participant. Repairs will only be undertaken upon receipt in writing from the Participant of approval to proceed. The DCC will use reasonable endeavours to inform the Participant if the actual cost of repair exceeds the estimate. The DCC shall not be liable for any costs associated with delays in Participant's test activities whilst repairs are undertaken.

The Participant should contact the DCC Service Centre at the above referenced email address for instructions on the returns process, both within and outside of warranty period. All out of warranty returns will be at the Participant's costs. DCC recommends that the Participant adequately insure the DCC Boxed product whilst in transit to the DCC Service Centre.

# 6. Commercials

## 6.1. Price

The pricing for DCC Boxed and its component parts are outlined as follows:

| Item | Price to purchase | Included |
|---|---|---|
| Standard kit | £5,500 | A NUC, the USB Hub, a Zigbee Sniffer, and the associated power cables |
| Single emulator only | £250* | Emulator only (pre-configured to the device type of your choice) |

*Price is the same for all emulator configurations

## 6.2. Billing

Upon purchasing a DCC Boxed unit, or any additional equipment, we will invoice you for the full fee. You will have 30 days through which to make payment for this unit.

# 7. Other Documents

## 7.1. Policy Document

The DCC Boxed Policy document can be accessed from the DCC Boxed webpage. If you wish to purchase DCC Boxed, you will be required to agree to this before purchase.

## 7.2. Enabling Services Agreement

The Enabling Services Agreement for DCC Boxed can be accessed from the DCC Boxed webpage. If you wish to purchase DCC Boxed, you will be required to agree to this before purchase.

# 8. About this document

This document is designed to inform users about the product, prior to purchase.