User Guidance

Service Request Forecasts

Table of Contents

1. Background

1.1. Summary

Section H3 of the Smart Energy Code (SEC) covers the obligations on the DCC and Users in relation to Service Request Forecasting.

The DCC is obliged to provide Service Providers with a rolling monthly forecast of the number of Service Requests expected to be sent in the immediately following three (3) calendar months and anticipated in the subsequent three (3) calendar months. Service Providers are then obliged to provide a minimum of 110% of the capacity required to meet their performance obligations, based on these forecasts.

Building on this obligation the DCC also provides Service Providers with a 48-month Service Request forecast for load and system performance prediction.

These Service Request forecasts support Service Providers in their drive to meet the required service levels and are translated into a commitment by Service Providers to meet these predicted Service Request volumes. They also aid the prediction of future workloads, the impact on component and service capacity and underpin Service Provider Capacity Plans that set out their plan to meet the required service levels over the next 24 months as Service Request volumes grow.

This document, which will be published on SharePoint, is intended to provide Users with guidance in meeting the mandatory requirements of the SEC. Please note that the DCC has supplied this guidance based on their knowledge at the time of writing. DCC would welcome ongoing feedback on how the contents can be improved.

•   Section 3 describes the expectations on Users extracted from SEC sections H3 of the Smart Energy Code (SEC)

•   Section 4 sets out the Service Request Forecast output to be shared with Users

•   Section 5 sets out the Service Request Variance Report output to be shared with Users

•   Section 6 outlines the governance requirements for updating the Service Request Forecast User Guidance document.

1.2. Benefits

The accurate production of Service Request forecasts provides the following benefits:

#1. Solid projections for expenditure

- Enables accurate system sizing, avoids over purchasing and wasted capacity
- Enables the prioritisation of investments in new components to support planned growth.

#2. Improved utilisation of assets

- Improves confidence that capacity can be provided when needed and not overprovisioned
- Anticipates and provisions adequate capacity for critical high-demand periods
- Provides a basis to challenge requests for resources
- Identifies bottlenecks, where under-capacity keeps other resources from being used.

#3. Business agility

- Allows capacity to stay in step with demand and the agility to execute significant change
- Informs how configuration changes impact current and projected performance
- Diminishes the risk associated with changes to the service.

#4. Business confidence

- Allows future requirements to be assessed and delivered
- Inspires industry confidence and positions the DCC and Service Providers to be proactive
- Prevents service degradation and prevents potential outages.

1.3. Introduction

This Service Requests Forecasts guidance document makes provision for such matters as are described in Section H3 of the Code, and provides further processes and detail required to facilitate those matters.

The DCC will produce two Service Request Forecasts (covering the following 6 months and 48 months) and a single variance report (covering the previous three months).

1. A six-month forecast of the number of Service Requests that Users will (collectively) send in each of the six months following the end of the month in which such forecast is provided. This forecast will contain a breakdown of the total number of Service Requests by reference to each Service Reference Variant listed in SEC Appendix E 'DCC User Interface Services Schedule' and the category of Service (i.e. Future Dated, On Demand or Scheduled). Each forecast will specify the DCC's estimate of the number of Smart Meter installations and Enrolments which Users will (collectively) undertake during each relevant month (recognising that such installations and Enrolments drive Service Request volumes)

2. A 48-month forecast of the number of Service Requests that Users will (collectively) send in each of the 48 months following the end of the month in which such forecast is provided. This forecast will contain a breakdown of the total number of Service Requests by reference to each Service Reference Variant listed in SEC Appendix E 'DCC User Interface Services Schedule' and the category of Service (i.e. Future Dated, On Demand or Scheduled).

3. A Service Request Forecast accuracy report that sets out the number of Service Requests sent by Users (collectively) during each of the previous three months (in total and broken down by reference to each Service Reference Variant listed in the DCC User Interface Services and comparing the actual numbers sent against the numbers most recently forecast for the applicable month. This will evidence the accuracy of previous forecasts and identify steps to improve future forecast accuracy.

Each Forecast will predict the volume of distinct (excluding retries) Service Reference Variants, as indicated by their Service Request ID, sent over the time-period covered by the forecast.

The exception to this is SRV 11.1 for firmware distribution, where a single Service Request is sent from the User to the DCC but this SRV results in multiple Commands being sent from the DCC to Devices. The Service Request Forecast predicts the number of Device upgrade requests (or Transaction ID's) specified within the SRV 11.1 and not against the number of Service Requests sent by the User.

Requests to transform a Critical Service Request (Sent to the TRANSFORM service using a Command Variant (CV) value of 4) which will be returned to the User for correlating and signing are not counted in the forecast. However, the subsequent sending of the Signed Pre-Command for sending to the Device (including for local delivery) will be counted within the Service Request Forecast.

These definitions align the Service Request Forecast to the definitions employed within the ADT User Guidance Document. In adopting the same definitions, the Service Request Forecast can be used to benchmark the global Anomaly Detection Threshold (ADT) settings.

The Service Requests included within the Service Request Forecast will align to Appendix E, DCC User Interface Services Schedule.

2. Document Control

2.1. Revision History

Revision Number	Revision Date	Summary of Changes	Name
1.0	29/06/2021	Version used as baseline for User Guidance document	Graeme Liggett
1.1	07/07/2021	Refined text and removed SRV volumes	Graeme Liggett
1.2	16/09/2021	Updated in response to consultation comments	Graeme Liggett
1.3	10/01/2022	Updated further in response to consultation comments	Graeme Liggett

2.2. Related Documents

Document	Version	Author	Date
Smart Energy Code (SEC)	40	SECAS	24/06/2021
SEC Appendix E – DUISS	5.0	SECAS	13/03/2021

3. Service Request User Guidance

3.1. Overview

The DCC will publish a forecast of Service Requests once a quarter, covering the following six months, broken down by Service Reference Variant and document assumptions made relating to the expected pattern of Service Request demand. Annually, the DCC will publish a four-year forecast of expected traffic.

The DCC shall:

a) by the 15th working day of January, April, July and October publish a Service Request Forecast, covering the six months following the month of publication

b) by the 10th working day of February, May, August, November publish a report on the accuracy of the six-month Service Request Forecast covering the previous three months, before the month of publication

c) by the 10th working day of December, publish a 48-month Service Request Forecast, covering the 48 months following the month of publication

Each of these documents will be published on SharePoint and available to the Panel and all Users (Information for Sec Parties : Reports).

3.2. User and DCC Responsibilities

The input Users may provide into the process is documented in Section H3 of the Smart Energy Code (SEC). Users are not obliged to provide input, however this would help reduce uncertainties in future demand and improve forecast accuracy. Forecast accuracy is dependent on an understanding of Users expectations and changes in behaviour.

The DCC asks (but without obligation) that Users support the production of these Service Request Forecasts through their insight and guidance to maintain the monthly accuracy target of +/-10%. This forecast accuracy target aligns to Service Provider contracted requirements which obligates them to provide capacity equivalent to 110% of forecasted Service Requests.

The numbered paragraphs below outline the input that the DCC anticipates Users will provide to support the production of these Service Request Forecasts.

1. The DCC will produce, periodically (at least annually) review and update a methodology (including applicable assumptions) for creating the DCC's forecasts. The DCC will share this methodology (and updates) with the Panel and Users, and the DCC will take into account any Panel or User comments.

2. Where a User disagrees with the DCC's Service Request forecast, they are asked (but not obliged) to notify the DCC of their concerns, through their Service Management contact. In addition, Users are asked (but not obliged) to notify the DCC where a User is aware of expected significant changes to one or more of the following (each of which will apply by reference to thresholds or other guidelines approved by the Panel from time to time and set out in the quarterly service request forecast):

   a. the User's daily/monthly distribution or volume of Service Requests;

   b. the User's monthly Smart Meter installation capacity; and/or;

   c. firmware releases for the User's Devices.

In producing its forecasts, the DCC will take into account any and all information provided by the Panel or Users.

3. The DCC will monitor revisions made to User Anomaly Detection Threshold Files for indicators of changes in behaviour. Clarification on revisions made to User ADTs may be sought through User Service Management reviews or Users directly through Service Management contacts where these changes could impact the forecast accuracy target of +/-10%

4. The DCC will monitor User Service Request volumes for indicators of changing behaviours. Clarification through User Service Management reviews or Users directly through Service Management contacts may be sought where these changes could impact the forecast accuracy target of +/-10%

5. Users are asked (but not obliged) to share with DCC any comments they have on DCC's proposed corrective actions (which may include changes to the methodology, assumptions etc.) to correct for significant deviations between the DCC's forecasts and the actual numbers, as documented in the Service Request Forecast Variance Report. The DCC will take into account any and all information provided by Users when correcting its forecasts and record and share these comments with the Panel.

6. The Panel will maintain and publish a list of priority Service Reference Variants in respect of which the DCC must focus its efforts in achieving forecasting accuracy. These are identified as those responsible for the largest impact on DCC Services, either due to their volume or payload size. A Service Reference Variant will only be added or removed from the list on the application of the DCC, one or more Users, and where the Panel considers the addition or removal to be reasonable. The Panel will publish the list from time to time and will give the DCC and each User advance notice of any changes to the list. While the DCC focuses its efforts on forecasting these prioritised Service Reference Variants, all Service Reference Variants will be forecast.

7. Ahead of the publication of DCC's annual 48-month Service Request Forecast, the DCC will invite Users to input into the production of this long-range forecast. This should take place through a workshop and / or bilaterals, with invitations sent out four weeks prior to the workshop or bilateral. At the Panel's direction, DCC can also issue a consultation to allow all Users to review and comment, if they feel that is required. The DCC will take into account any and all information provided by Users when producing its long-range forecast upon which Service Providers will build their capacity plans, The DCC will record and share these comments with the Panel.

3.3. Priority Service Reference Variants

The DCC has identified 30 Service Reference Variants that represent approximately 92 percent of Service Reference Variant volumes in June 2021. The accuracy of these Service Reference Variants will be prioritised in DCC's modelling as they have the largest impact on forecast accuracy. Service Reference Variant 11.1 Firmware Download is added to this list due to its impact on DCC Services.

This prioritised list of Service Reference Variants will be reviewed by the Panel at least each quarter and ahead of the publication of each Service Request Forecast.

Top Service Reference Variants by Volume (1-30 SRV by Volume)

SRV	SRV Name
1.1.1	Update Import Tariff (Primary Element)
1.2.1	Update Price (Primary Element)
11.2	Read Firmware Version
11.3	Activate Firmware
12.1	Request WAN Matrix
12.2	Device Pre-notification
2.2	Top Up Device
4.1.1	Read Instantaneous Import Registers
4.1.2	Read Instantaneous Import TOU Matrices
4.11.1	Read Tariff (Primary Element)
4.14	Read Prepayment Daily Read Log
4.17	Retrieve Daily Consumption Log
4.4.2	Retrieve Change Of Mode / Tariff Triggered Billing Data Log
4.6.1	Retrieve Import Daily Read Log
4.8.1	Read Active Import Profile Data
5.1	Create Schedule
6.11	Synchronise Clock
6.13	Read Event Or Security Log
6.15.1	Update Security Credentials (KRP)
6.15.2	Update Security Credentials (Device)
6.17	Issue Security Credentials
6.21	Request Handover Of DCC Controlled Device
6.24.1	Retrieve Device Security Credentials (KRP)
6.6	Update Device Configuration (Gas Conversion)
6.8	Update Device Configuration (Billing Calendar)
8.1.1	Commission Device
8.11	Update HAN Device Log
8.2	Read Inventory
8.7.2	Join Service (Non-Critical)
8.9	Read Device Log

4. Service Request Forecast

4.1. Overview

The quarterly Service Request Forecast will present the expected monthly aggregate volume and by Service Reference Variant of distinct Service Requests (excluding retries), as indicated by their Service Request ID (or Transaction ID for SRV 11.1) for the six months following the month of publication.

The Service Request Forecast will be published on SharePoint as an Excel document. This publication will include:

- Commentary on expected Service Reference Variant Volumes

- Detail of the assumptions made in producing the forecast

- Present the predicted Service Request volumes by Service Reference Variant by month

- Present the predicted number of Devices installed and Enrolled by month

- Guidance and thresholds for Service Reference Variant volume changes that Users should bring to DCC's attention. As these thresholds are set with reference to changes in the number of priority Service Reference Variants that Users expect to (collectively) send and typically number tens of millions of a specific Service Reference Variant, Users are unlikely to exceed these thresholds. The exception being 11.1 the Firmware Download Request, where monthly volumes are volatile, with large increases or declines month-on-month.

The Service Request Forecast will be published to SharePoint (Information for Sec Parties : Reports), where the DCC already publishes reports to Users, by the 15th working day of January, April, July and October.

5. Service Request Forecast Variance Report

The quarterly Service Request Forecast Variance Report will present the monthly variance between actual and forecast aggregate Service Request volumes of distinct Service Requests (as defined in Section 1.3) for the previous three months.

This variance report will review and comment on the variance between actual and forecast aggregate service request volumes by each Service Reference Variant.

In reporting distinct Service Reference ID and Transaction ID counts of Service Requests, the volumes within this report are comparable to the method of calculation to ADT volumes and User SSI Service Request volume data. The monthly DCC Service Request Forecast Variance Report produced prior to the introduction of this modification applied a number of filters that could create a difference of between 10 and 20 percent between User Self-Service (SSI) volumes and User actual volumes as presented in the DCC User variance report.

The Service Request Forecast Variance Report will be published on SharePoint as a PDF document. This publication will include:

- Commentary on Service Reference Variant Volume variance
- Recommendation actions to improve forecast accuracy
- Variance of Service Request actual and predicted volumes by Service Reference Variant
- Variance of actual and predicted meter installations and enrolments.

The Service Request Forecast Variance Report will be published to SharePoint (Information for Sec Parties : Reports), where the DCC already publishes reports to Users, by the 10th working day of February, May, August, November.

6. Guidance Governance

Any proposed changes to this Service Request Forecast Guidance document must first adhere to the following governance requirements prior to publishing.

Where Panel, its delegated authority or a SEC Party ask for an amendment to the Guidance document, that change should be workshopped at SEC Panel or its delegated authority.

- DCC are responsible for drafting changes to the Service Request Forecast Guidance document
- The drafted changes should be presented to the SEC Panel or its delegated authority for review and approval. At the guidance of the Panel these changes can be shared with all Users for consultation
- DCC are responsible for publishing the updated Service Request Forecast guidance to SharePoint and removing superseded versions
- DCC will act as an intermediary to resolve any issues.