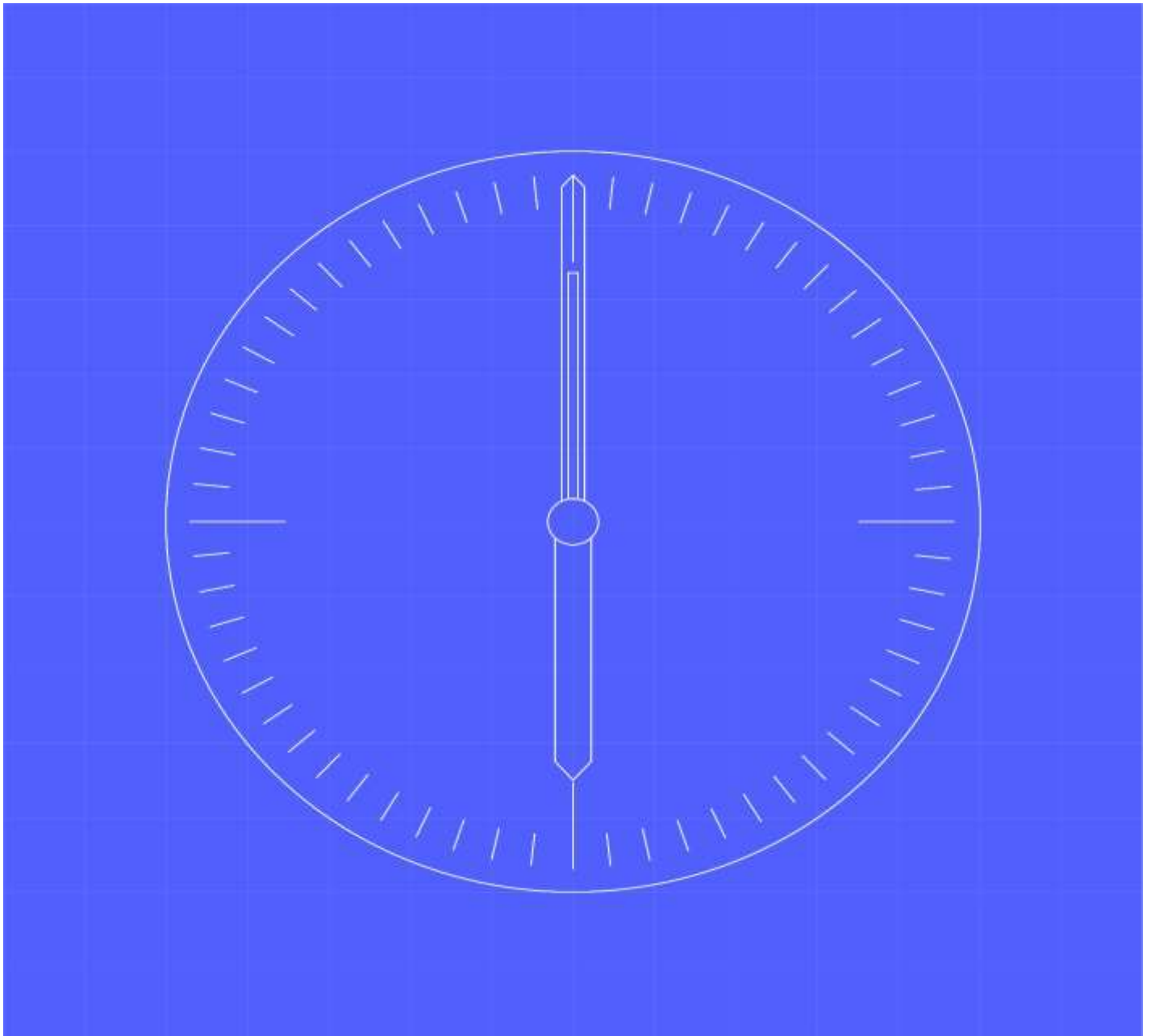


[03] Migration Capacity Calculations - Method Statements



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1.1 Change Record

| Date | Author | Version | Change Detail |
|------------|----------------|---------|--|
| 18/03/2024 | Migration Team | 0.1 | Draft for Industry Consultation |
| 19/04/2024 | Migration Team | 0.2 | Revised Draft for Assurance Meeting |
| 08/05/2024 | Migration Team | 1.0 | Version Uplifted following MCAG Interim Approval |
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| 27/06/2024 | Migration Team | 1.2 | Updated following Industry Consultation comments |
| 25/07/2024 | Migration Team | 2.0 | Version Uplifted following MCAG Interim Approval |

1.2 References

| Document | Publisher | Published | Additional Information |
|--|----------------|------------|------------------------|
| REF-01 [01] Migration Framework Foundations v2.0 | Migration Team | 25/07/2024 | Migration FW |
| REF-02 [02] Migration Framework - Principles and Guidelines v2.0 | Migration Team | 25/07/2024 | Migration FW |
| REF-03 [03] Migration Capacity Calculations - Method Statements v2.0 | Migration Team | 25/07/2024 | Migration FW |
| REF-04 [03a] Migration Capacity Calculations – Parameters v2.0 | Migration Team | 25/07/2024 | Migration FW |
| REF-05 [04] Migration Requirements and Processes v2.0 | Migration Team | 25/07/2024 | Migration FW |
| REF-06 [04a] Migration Business Process Models v2.0 | Migration Team | 25/07/2024 | Migration FW |
| REF-07 [05] Migration Choreography v1.0 | Migration Team | 25/07/2024 | Migration FW |
| REF-08 [06] Migration Governance and Escalation Framework v1.0 | Migration Team | 25/07/2024 | Migration FW |
| REF-09 [07] Migration Data Requirements and Reports v1.0 | Migration Team | 25/07/2024 | Migration FW |
| REF-10 MHHS-DEL961 – Migration Design Document v1.4 | Migration Team | 12/06/2024 | |
| REF-11 MHHS-DEL953 – Data Assessment Report v1.0 | Migration Team | 21/02/2023 | |
| REF-12 MHHS-DEL1128 – Migration, Cutover and Data Strategy v1.0 | Migration Team | 02/06/2023 | |
| REF-13 MHHS-DEL1648 - Migration Thresholds Document v1.0 | Migration Team | 20/11/2023 | |
| REF-14 MHHS-DEL813 – Overarching Test Data Approach and Plan v1.0 | Testing Team | 19/07/2023 | |
| REF-15 MHHS-DEL1181 – Data Cleanse Plan v2.1 | Migration Team | 04/06/2024 | |
| REF-16 MHHS-DEL1792 - M15 Acceptance Criteria v1.0 | Migration Team | 13/12/2023 | |

1.3 Terminology

| Term | Description |
|---|---|
| BAU Process | This refers to a process within the MHHS arrangements as set out within the MHHS Core Design. |
| BSC | Balancing and Settlement Code |
| Central Services / Systems | MHHS Programme term referring to the parties and systems that comprise the supporting infrastructure for MHHS business processes and services, namely the Elexon Central Services, Electricity Enquiry Service, Data Service Provider, Central Switching Service, Data Transfer Network, and the Data Integration Platform. |
| CoA | Change of Agent |
| CoS | Change of Supplier |
| CSS | Central Switching Service |
| Daily Planned Migration Threshold | This is an industry-wide limit on the maximum planned for number of migrations that can take place on a given day under normal circumstances (200,000). |
| Data Cleanse Plan | The approach and activities required to improve and populate data prior to Migration start. |
| DC | Data Collector |
| DIP | Data Integration Platform |
| DS | Data Service |
| DSP | Data Services Provider |
| ECS | Elexon Central Services |
| EES | Electricity Enquiry Service |
| Export MPAN | An MPAN that exports energy to the grid from a premises. |
| Forward Migration | The process through which MPANs will move from legacy arrangements to MHHS arrangements. |
| IDNO | Independent Distribution Network Operator |
| Import MPAN | An MPAN that imports energy from the grid to a premises |
| ISD | Industry Standing Data |
| LDSO | Licensed Distribution System Operator |
| LDSO Portfolio Thresholds | Limits set for each LDSO based on the size of their portfolio, ensuring balanced migration across different operators See MHHS-DEL1648 - Migration Thresholds Document v1.0 |
| Legacy Arrangements | The existing arrangements set out under the BSC and REC. For the purposes of the Migration Design, this is primarily the REC Metering Services Schedule and the Balancing and Settlement Procedures related to Data Collection. |
| MCC | Migration Control Centre |
| MFW | Migration Framework |
| MHHS | Market-Wide Half-Hourly Settlement |
| MHHS Arrangements | The new MHHS arrangements as set out in the MHHS Core Design Artefacts. |
| Migration Design | The technical articulation of how MPANs will move from legacy to new MHHS arrangements. See MHHS-DEL961 – Migration Design Document v1. |
| Migration Period | The period denoted by the Programme as occurring between the M11 and M15 milestones. |
| Migration Planning and Management Tool (MPMT) | Application to be developed for use by the MCC to manage the end to end migration process |
| MOP | Meter Operator |
| MPAN | Meter Point Administration Number |
| MPID | Market Participant Identifier |
| MS | Metering Service |
| MWG | Migration Working Group |
| NFR | Non-Functional Requirement |

| Term | Description |
|----------------------------|--|
| Primary MPAN | The MPAN, within a Related MPAN arrangement, for which a Switch is initiated, or a forward migration (via an IF-031) is initiated. |
| Qualified Supplier | A Supplier MPID recognised in ISD as both having passed the relevant BSC qualification requirements; and declared that their service is operational within the MHHS arrangements. |
| Registration Service | The Registration Service is the LDSO service that holds Meter point standing data information about each MPAN within its Distribution Region. Data includes the BRP the processing and metering services appointed to the MPAN. It also includes information on the type of customer, the Measurement Class, Energisation Status and Line Loss Factor Class. |
| REC | Retail Energy Code |
| Reverse Migration | The process through which MPANs will move from MHHS arrangements to legacy arrangements. |
| Secondary MPAN | The MPAN, within a Related MPAN arrangement, for which a forward migration occurs when an IF-031 is received for a Primary MPAN. |
| Switch | The process by which a new Supplier Registration supersedes an existing Supplier Registration, managed by the CSS. |
| Upper Migration Threshold | This is an industry-wide limit on the maximum number of migrations that can take place on a given day under exceptional circumstances (300,000). See MHHS-DEL1648 - Migration Thresholds Document v1.0 |
| Supplier Capacity Envelope | A daily profile covering the whole migration period detailing the maximum number of migrations for a given Supplier MPID in a LDSO that may be undertaken. This also includes the submission rules for a Supplier MPIDs deminimus category submissions. |
| Supplier Submission | A Supplier's forward view of planned migrations by MPID at LDSO Region level that falls within the Supplier Capacity Envelope provided for each LDSO Region and includes all eligible MPANs within their portfolio within each LDSO Region. The aggregate Supplier Submissions shall include all eligible MPANs within the Suppliers portfolio. |

2 Supplier Migration Capacity Calculations: Method Statement

2.1 Introduction

This document details the calculations required to set the Scaled Supplier Capacity Envelopes within each LDSO Region (defined by the Supplier Market Participant Identifier: $MPID_{XR}$). These envelopes will inform Suppliers of the Capacity within which it is expected that they shall submit their Migration Schedules. The calculations use the Parameters defined in the [03a] Migration Capacity Calculations – Parameters

2.2 Load Contention

The calculations accommodate competing ‘thresholds’ set out in the Migration design artefact MHHS-DEL1648-Migration Threshold Document v1.0. Thresholds are set for both Central System Parties (200-300K per Migration Date) and by each LDSO Region (10-40K per Migration Date).

2.3 Approach

These calculations shall be undertaken for each LDSO Region and Supplier combination. The approach set out in the calculations below initially adjust the Central Service Migration Threshold to accommodate small LDSO Market Participant Identifiers (MPIDs) with MPAN Volumes that are below a De-Minimis Threshold. An Adjusted LDSO Migration Threshold is then calculated to include capacity that is reserved for re-tries and re-migrations following reverse Migration activity. The Adjusted LDSO Migration Threshold also excludes Supplier MPIDs that have portfolios that are below a De-Minimis Supplier Threshold. The Adjusted LDSO Migration Threshold Capacity is then split proportionally between qualified Suppliers within the LDSO Region weighted to ensure late qualifying Parties have sufficient capacity to complete their Migration activities by the ‘M15’ Milestone.

2.4 Detailed Calculations for Scaled Supplier Capacity Envelopes

The following Identifiers are used in this document:

| Identifier | Data item |
|------------|----------------|
| D | Migration Date |
| R | LDSO Region |
| X | Supplier |

2.5 Setting the Central Service Migration Threshold

The daily Central Service Migration Threshold ($CSMT_D$) for Migration Date “D” shall have a default value of 200K. This value may be flexed up to 300K to accommodate peak Migration Periods.

2.6 Setting the De-Minimis LDSO Threshold Flag

Where for an LDSO Region “R” the LDSO Metering Point Count ($LMPC_{RD}$) is less than the De-Minimis LDSO Threshold ($DMLT_R$) value then the De-Minimis LDSO Threshold Flag ($DLTF_R$) shall be set as follows:

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If  $LMPC_{RD} < DMLT_R$ 
  then set the LDSO MPID “R”  $DLTF_R = “T”$ ,
else  $DLTF_R = “F”$ 

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2.7 Setting the De-Minimis Supplier Threshold Flag

Where for a Supplier “X” the Initial Supplier Portfolio (ISP_X) is less than the De-Minimis Supplier Portfolio Threshold (DMSPT_X) value then the De-Minimis Supplier Threshold Flag (DSTF_{XR}) shall be set as follows:

If $ISP_X < DMST_X$
 then set the Supplier MPID “X” DSTF_{XR} = “T”,
 else DSTF_{XR} = “F”

2.8 Determining the Adjusted Central Service Migration Threshold

The daily Adjusted Central Service Migration Threshold (ACSMT_D) shall be determined using the Central Service Migration Threshold (CSMT_D) and the De-Minimis LDSO Factor (DLF_{RD}) as follows:

$$ACSMT_D = CSMT_D * DLF_{RD}$$

2.9 Determining the Reserved Capacity

The daily Reserved Capacity (RC_{RD}) shall be determined using the Unadjusted LDSO Migration Threshold (ULMT_{RD}) and the Reserved Capacity Factor (RCF_{RD}):

$$RC_{RD} = (ULMT_{RD} * RCF_{RD}) - ULMT_{RD}$$

2.10 Determining the Adjusted LDSO Migration Threshold

The daily Adjusted LDSO Migration Threshold (ALMT_{RD}) shall be determined using the Adjusted Central Service Migration Threshold (ACSMT_{RD}) the LDSO Metering Point Count (LMPC_D) the De-Minimis Supplier LDSO Factor (DSLFRD) (DSPDV_{RXD}) and the Reserved Capacity (RC_{RD}) as follows:

$$ALMT_{RD} = (ACSMT_D * (LMPC_{RD} / \sum LMPC_D * 100)) * (DSLFRD + RC_{RD})$$

2.11 Determining the Scaled Supplier Capacity Envelope

The daily Scaled Supplier Capacity Envelope (SSCE_{XR}) shall be determined using the Adjusted LDSO Migration Threshold (ALMT_{RD}), the Initial Supplier Portfolio (ISP_{RX}) and the Supplier Scaling Factor (SSF_{XR}) as follows:

$$SSCE_{XR} = ALMT_{RD} * (ISP_{RX} * SSF_{XR} / (\sum_{x=1 \text{ to } n} (ISP_{RX} * SSF_{XR})))$$

Where SSCE_{XR} is for Supplier MPID “X” for whom the envelope is being calculated and “n” are all the qualified Suppliers migrating on Migration Date “D” and have a DSTF_{XR} = “F”. The Supplier Scaling Factor (SSF_{XR}) as defined in the MHHS-DEL2429 - [03a] Migration Capacity Calculations - Parameters shall be configured for each Supplier for each Sprint.

3 Scaled Supplier Capacity Envelope: Worked Example

The following is a worked example for the Distribution Region 'XMPL_R' and for the Supplier 'MIGR_{RX}' for Migration Date 'D'. For the purposes of this example:

The Central Service Migration Threshold (CSMT_D) = 200,000

The Total LSDO Metering Point Count = 33,000,000

LDSO Data

| LDSO MPID | LDSO Metering Point Count (LMPC) | Unadjusted LDSO Migration Threshold (ULMT) | De-Minimis LDSO Threshold Flag (DLTF) | Reserved Capacity Factor (RCF) |
|------------------------------|----------------------------------|--|---------------------------------------|--------------------------------|
| XMPL _R | 3,800,000 | 40,000 | F | 1.02 |
| DSTB | 70,000 | 10,000 | T | N/A |
| DISTC | 50,000 | 10,000 | T | N/A |
| De-Minimis LDSO Factor (DLF) | 0.02 (2%) | | | |

Supplier Data

| Supplier MPID | Initial Supplier Portfolio (ISP) | De-Minimis Supplier Threshold Flag (DSTF) | Supplier Scaling Factor (SSF) | Scaled Supplier Portfolio (ISP * SSF) |
|---|----------------------------------|---|-------------------------------|---------------------------------------|
| MIGR _{RX} | 950,000 | F | 1.0 | 950,000 |
| SUPB | 578,500 | F | 1.0 | 578,500 |
| SUPC | 533,000 | F | 0.7 | 373,100 |
| SUPD | 450,000 | F | 0.7 | 315,000 |
| SUPE | 10,000 | T | N/A | N/A |
| SUPF | 5,000 | T | N/A | N/A |
| De-Minimis Supplier LDSO Factor (DSLFF) | 0.06 (6%) | | | |
| Total Scaled Supplier Portfolio | | | | 2,216,600 |

NOTE: The De-Minimis values shown in the above tables are for illustration purposes only.

3.1 Determining the Adjusted Central Service Migration Threshold

The daily Adjusted Central Service Migration Threshold (ACSMT_D) shall be determined using the Central Service Migration Threshold (CSMT_D: 200,000) and the De-Minimis LDSO Factor (DLF_{RD} 2%) as follows:

$$ACSMT_D = 200,000 * (1 - 0.02) = 196,000$$

3.2 Determining the Reserved Capacity for XMPL_R

The daily Reserved Capacity (RC_{RD}) shall be determined using the Unadjusted LDSO Migration Threshold (ULMT_{RD}: 40,000) and the Reserved Capacity Factor (RCF_{RD}: 1.02):

$$RC_{RD} = (40,000 * 1.02) - 40,000 = 800$$

3.3 Determining the Adjusted LDSO Migration Threshold

The daily Adjusted LDSO Migration Threshold (ALMT_{RD}) shall be determined using the Adjusted Central Service Migration Threshold (ACSMT_{RD}: 190,000) the LDSO Metering Point Count (LMPC_D: 3,800,000) the De-Minimis Supplier LDSO Factor (DSLFR_{RD}^*) and the Reserved Capacity (RC_{RD}: 800) as follows:

$$ALMT_{RD} = (196,000 * (3,800,000)/33,000,000) * (1-0.06) + 800 = 22,015$$

3.4 Determining the Scaled Supplier Capacity Envelope for Supplier MIGR_{RX}

The daily Scaled Supplier Capacity Envelope (SSCE_{xRD}) shall be determined using the Adjusted LDSO Migration Threshold (ALMT_{RD}: 22,015), the Initial Supplier Portfolio (ISP_{RX}: 950,000), the Supplier Scaling Factor (SSFX_{RD}:1.0) and the Total Scaled Supplier Portfolio (TSSP: 2,216,600) as follows:

$$SCE_{xRD} = 22,015 * (950,000/2,216,600) = 9,440$$

3.5 Final Allocation for Suppliers in LDSO XMPL_R for Migration Date D

Completing the calculations for all Suppliers in the Supplier Data Table above gives the following allocation of Scaled Capacity Envelopes.

| Supplier MPID | Initial Supplier Portfolio |
|--------------------------|----------------------------|
| MIGR_{RX} | 9,440 |
| SUPB | 5,748 |
| SUPC | 3,707 |
| SUPD | 3,130 |
| Total Allocation | 22,015 |