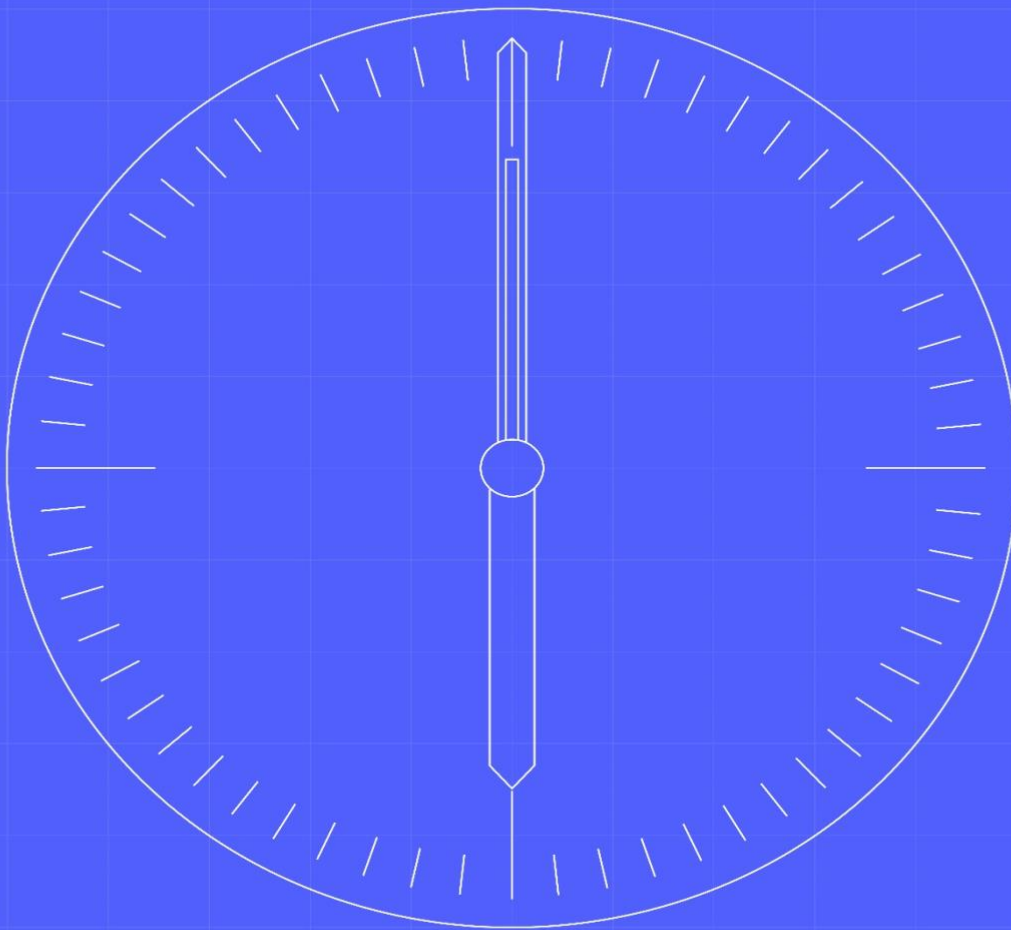


MHHS Design Release Note

Interim Release 07

Release Date: 31-01-2024



Document owner

Design Team

Status:

Final

Document number

DEL1275

Date

31/01/2024

Version

V1.0

Classification

Public

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1.1 Change Record

Date	Author	Version	Change Detail
09/01/2024	Design Team	0.1	Initial Draft
31/01/2024	Design Team	1.0	Final version

1.2 Reviewers

Reviewer	Role

2 INTRODUCTION

These are the release notes for Interim Release 7 of the MHHS Design.

Use Release Notes to keep up with what's going on. Release notes provide a summary of what's new and what issues have been resolved within the design.

3 OVERVIEW

Here's what's new or updated within **Interim Release 7**

Improvements:

- Implementation of CR036/ DIN-850 - Clock Time Reads and Appointments
- Implementation of CR023 - Standardisation of Interfaces within the Smart Data Services
- Implementation of CR032 - Replacement of REP080 to use the P210
- Changes to align DES138 Data Interface catalogue and the Swagger definitions
- ECS report (ERI011B) had corrections to improve.
- Changes to the EDI021 ISD Entities documents are included in this release.
- Changes made to the requirements documentation (BRS001, BRS002, etc.)
- Changes made to the E2E Architecture document to improve clarity.
- Changes made to the E2E architecture document to align with Swagger definitions.
- Relevant changes made to migration documentation e.g. BPM003, BPM001 etc.
- Updates made to MHHS-DIP051 - IF015-016 Design Note – this document provides an understanding of how the IF-015 & IF-016 Interfaces will work.

Fixes:

- Several corrections have been applied for various process models, descriptions and method statement details.

Further guidance on the Release.

Versioning:

Interim Releases are NOT a blanket updating of all the design artefacts and models to the next release number. Each Document artefact is separately version controlled and tracked. Interim releases are a collection of updated artefacts which are updated. The version number depends on the last revision of the artefact. Thus, an interim release will publish and consists of documents at different version numbers. Some documents contain multiple models, interfaces, or report definitions which each have a version number. The artefacts' own document version number may contain different objects at different version numbers depending on the changes made to the artefact.

Versions of design artefacts with tracked changes is available on the Red-Lined Design Artefacts page.

Below are the Design Interim Releases and their corresponding Swagger Versions, including the dates of publication and the upliftment of the DIP Simulator to the related Interim Release. Additionally, there is a column to indicate the effective date of each Interim Release during Systems Integration Testing.

Interim Release	Design Interim Release Published	Swagger Version	SIT Effective from Date	DIP Simulator Uplifted
IR2	05-Jul-23	1.2	30-Oct-23	11-Aug-23
IR2.1	11-Oct-23	1.2.1	30-Oct-23	20-Oct-23
IR2.2	08-Nov-23	1.2.2	08-Nov-23	08-Nov-23
IR2.3	29-Nov-23	1.2.3	20-Dec-23	15-Dec-23
IR3	02-Aug-23	1.3	11-Mar-24	03-Nov-23
IR4	30-Aug-23	1.4	11-Mar-24	03-Nov-23
IR5	04-Oct-23	1.5	11-Mar-24	03-Nov-23
IR5.1	17-Oct-23	1.5.1	11-Mar-24	03-Nov-23
IR5.2	14-Dec-23	1.5.2	11-Mar-24	05-Jan-24
IR5.3	17-Jan-24	1.5.3	11-Mar-24	Jan/Feb 24 (exact date TBD)
IR6	01-Nov-23	1.6	10-Jun-24	22-Mar-24
IR7	31-Jan-24	1.7	10-Jun-24	22-Mar-24
IR8	03-Apr-24	1.8	02-Sep-24	21-Jun-24

Design Models:

Design Models available on the collaboration are also updated in line with the published artefact models within the release.

JSON/YAML:

JSON and YAML files published for V1.7 are in line with the latest version of the DES138 Data interface catalogue, these files will continue to be aligned with future releases.

3.1 Release Feedback

Any queries or feedback on this release or the contents of this release note please contact us via Design@MHHSprogramme.co.uk

4 Impacted Artefacts

The following table contains a list and versions of design artefacts/documents which have been updated.

Artefact	Version Number	Theme	Impact
E2E001 – End-to-End Solution Architecture	V3.6	Supporting Documents	Solution Design Correction
MHHS-DEL961 - Migration Design Document	V1.2	Migration Design	Statement correction
MHHS-DEL965 - BPM-001 - Change Of Supply - Reverse Migration	V1.1	Migration Design	Process Correction
MHHS-DEL963 - BPM-002 - Change of Service - Metering Service - Forward Migration	V1.3	Migration Design	Process Correction
MHHS-DEL967 - BPM-003 - Change of Service - Data Service - Reverse Migration	V1.1	Migration Design	Process Correction
MHHS-DEL971 - BPD001 - Change Of Supply - Reverse Migration	V1.1	Migration Design	Requirement Correction
MHHS-DIP051 - IF015-016 Design Note	V0.2	Supporting Documents	Solution Design Correction
MHHSP - ERI011B – ECS Reports - External	V5.6	Supporting Documents	Data Correction
MHHSP_EDI021 – ISD - Entities	V5.5	Supporting Documents	Data Correction
MHHSP-BP003 - Change of Service - Data Service	V5.6.1	MPAN Ownership	Process Correction
MHHSP-BP003C-Transfer of Reads - Change of Data Service	V5.2	MPAN Ownership	Process Correction
MHHSP-BP007-Disconnection	V5.3	Metering Changes	Process Correction
MHHSP-BP017-Optional_SDS_MDR_Interactions	V1.0	Supporting Documents	Process Correction
MHHSP - BP020 - Volume Allocation Service (ECS)	V5.2	Meter to Bank	Process Correction
MHHSP - BPD020 - Volume Allocation Service Business Process Descriptions	V5.2	Meter to Bank	Process Correction
MHHSP-BRS001 - Data Service Requirements	V5.5	Supporting Documents	Requirement Correction
MHHSP-BRS002-Metering Service requirements	V5.6	Supporting Documents	Requirement Correction
MHHSP-BRS003 - Registration Service requirements	V5.5	Supporting Documents	Requirement Correction
MHHSP-BRS004 - Supplier Overview	V5.3	Supporting Documents	Requirement Correction
MHHSP - BRS010 - Industry Standing Data Requirements (ECS)	V5.1	Supporting Documents	Requirement Correction

MHHSP-BRS017-Optional SDS_MDR Standard Interactions Requirements	V1.0	Supporting Documents	Requirement Correction
DES138-Interface Catalogue	V5.7.1	Meter to Bank, Metering Changes, MPAN Ownership	Interface corrections
MHHSP-METH002_ADS_Validation_Estimation	V5.4	Supporting Documents	Statement correction
MHHSP-METH005 LSS_Method_Statement	V5.1	Supporting Documents	Statement correction
MHHSP-METH006_VAS_Method Statement	V5.3	Meter to Bank	Statement correction
MHHSP-METH007_MDS_Method_Statement	V5.3	Meter to Bank	Statement correction
MHHSP-TRANS - BRS001 Transition Approach and Parallel Running Requirements	V4.0	Transition Design	Requirement Correction
MHHSPROGRAMME-DataCatalogue-1.7-domain.json		Supporting Documents	
MHHSPROGRAMME-DataCatalogue-1.7-domain.yaml			
MHHSPROGRAMME-DataTypes-1.7-domain.json			
MHHSPROGRAMME-DataTypes-1.7-domain.yaml			
MHHSPROGRAMME-ECS-CommonBlocks-1.7-domain.json			
MHHSPROGRAMME-ECS-CommonBlocks-1.7-domain.yaml			
MHHSPROGRAMME-ECS-Reports-1.7-domain.json			
MHHSPROGRAMME-ECS-Reports-1.7-domain.yaml			
MHHSPROGRAMME-Interfaces-EventCodes-1.7-domain.json			
MHHSPROGRAMME-Interfaces-EventCodes-1.7-domain.yaml	V1.7		Updated Swagger definitions
MHHSPROGRAMME-RealCommonBlocks-1.7-domain.json			
MHHSPROGRAMME-RealCommonBlocks-1.7-domain.yaml			
MHHSPROGRAMME-ResponseCodes-1.7-domain.json			
MHHSPROGRAMME-ResponseCodes-1.7-domain.yaml			
MHHSPROGRAMME-SubmitEvents-1.7-resolved.json			
MHHSPROGRAMME-SubmitEvents-1.7-resolved.yaml			
MHHSPROGRAMME-SubmitEvents-1.7-swagger.json			
MHHSPROGRAMME-SubmitEvents-1.7-swagger.yaml			
MHHSPROGRAMME-Examples-0.5-domain.json			
MHHSPROGRAMME-Examples-0.5-domain.yaml			

5 Resolved Issues

All fixes Design Issue Notifications (DINs) and the Request for Change (RFCs) to MHHS Design since the last release that have been resolved in this release are included in the list below:

DIN/RFC Ref	Description	Status
MHHS-DIN-501	Addition of Method 13 to METH002	Fixed
MHHS-DIN-742	ADS and SDS Estimation Statements	Fixed
MHHS-DIN-744	IF-036/037 Routing to MDS	Fixed
MHHS-DIN-745	DI-120 Additional Information should be mandatory nullable	Fixed
MHHS-DIN-754	Alignment of REP-005 and ISD entity	Fixed
MHHS-DIN-755	Correction to IF-035 Routing Matrix	Fixed
MHHS-DIN-756	Addition of IF-003 [ReverseMigration] to BPM-001	Fixed
MHHS-DIN-757	Add BP003A Link to BP003M Reverse Migration Map. Remove BP003A link from DEL963-BPM002 Forward migration	Fixed
MHHS-DIN-758	5 day check on MDR App Date in IF-034	Fixed
MHHS-DIN-759	Changes to Proposed Consent logic	Fixed
MHHS-DIN-760	UMSDS routing	Fixed
MHHS-DIN-764	Additional validation rule in IF-031 to ensure appointments are contiguous	Fixed
MHHS-DIN-767	Swagger incorrect for IF-043	Fixed
MHHS-DIN-768	Event Code inconsistency between Swagger and ECS Reports for REP-901	Fixed
MHHS-DIN-769	Updates to MHHSP-ERI011B (IR5) not reflected in the swagger	Fixed
MHHS-DIN-770	Swagger for IF-026 for variant IF-026-SSCandProfileClass contains incorrect enumeration for IF-025	Fixed
MHHS-DIN-771	R900-03. listOfMPANSONsite should be listOfMPANSONSite	Fixed
MHHS-DIN-779	Routing for IF-041	Fixed
MHHS-DIN-785	IF-001-ChangeOfSupplier required fields on CommonBlocks are incorrect	Fixed
MHHS-DIN-786	Determination of Market Segment Effective From Date	Fixed
MHHS-DIN-787	Typo in the data item name for DI20228 - DIP Roles / IDs Always Receipt ID (DI-993 in the Interface Catalogue)	Fixed
MHHS-DIN-788	Reconnection of MPAN (provided that CSS DeRegistration has not completed)	Fixed
MHHS-DIN-792	Number regex - DI-123	Fixed
MHHS-DIN-793	DI-241 - SUPC routing on IF-037 incorrect, should be SUPS	Fixed
MHHS-DIN-794	ISD Consumption Component Classes M5	Fixed
MHHS-DIN-795	ISD M9 Clarification	Fixed
MHHS-DIN-796	Clarification on validation of B018 block conditionality in IF-034	Fixed
MHHS-DIN-799	Capitalisation in Swagger	Fixed
MHHS-DIN-801	ECS Reports Inconsistency with Swagger	Fixed
MHHS-DIN-803	Naming standards are inconsistently applied in ECS reports catalogue for nested structures and lists.	Fixed
MHHS-DIN-805	Examples in swagger incorrectly resolved if have a leading 0	Fixed

MHHS-DIN-807	Details of the compression team are not defined in the E2E001 design document, only in CR030 at a high level	Fixed
MHHS-DIN-819	Typo in event code for REP-004	Fixed
MHHS-DIN-821	IF-041 contains B064/65 list that uses anyOf when this should be oneOf B064 or B065 to align with DES-138.	Fixed
MHHS-DIN-822	IF-007 EnergisationStatusChange/Failure CustomBlocks missing required attribute	Fixed
MHHS-DIN-823	IF-008 EnergisationStatusChange, common block for R0 and CustomBlocks for B025 block missing required attribute	Fixed
MHHS-DIN-824	IF-004 common block M0 required attribute is missing	Fixed
MHHS-DIN-825	IF-024 missing required attributes in blocks	Fixed
MHHS-DIN-827	IF-015 incorrect required Custom Block	Fixed
MHHS-DIN-828	IF-045 incorrect name on Custom block	Fixed
MHHS-DIN-829	DI-838 and DI-017 - require an N - No Consent enum	Fixed
MHHS-DIN-830	IF-001 Custom Block missing additional properties false attribute	Fixed
MHHS-DIN-832	[MeterUpdate]) to be added to data item B039 heading for IF-006	Fixed
MHHS-DIN-833	Routing table to include LDSO for IF-018	Fixed
MHHS-DIN-835	Add additional error messages to DES138	Fixed
MHHS-DIN-836	New swagger file ErrorCodes to describe MHHS error messages	Fixed
MHHS-DIN-837	Migration D0086 Clarification	Fixed
MHHS-DIN-839	Confirmation of DT016 data type	Fixed
MHHS-DIN-842	REP901, Common Block and Compression	Fixed
MHHS-DIN-843	Add RCP0000 to DES138 and Swagger as a valid a response code	Fixed
MHHS-DIN-844	Standardisation of Interfaces within the Smart Data Services	Fixed
MHHS-DIN-845	REP900 "List of MPANs" field should be mandatory	Fixed
MHHS-DIN-847	Add error code for IF-025 to validate if Null is provided and value is already Null	Fixed
MHHS-DIN-848	Clarification on SP de-appointment effective from date in the case of Atomic Secured Active	Fixed
MHHS-DIN-846	B050 consumptionComponentClassID property inconsistency between ECS reports catalogue and Swagger	Fixed
MHHS-DIN-849	Change B099 to be a single block rather than a list in IF-035	Fixed
MHHS-DIN-850	CR36 - Clock Time Reads and Appointments	Fixed
MHHS-DIN-852	ECS Report 006	Fixed
MHHS-DIN-853	Addition of new RetroSpective Date Validation Rules following DRG Review & Sign Off	Fixed
MHHS-DIN-854	DI-085 GUID definition	Fixed
MHHS-DIN-858	Ensure all enumerated types have obfuscated values (where needed) (IR 7 Release)	Fixed
MHHS-DIN-859	REP900 invoice	Fixed
MHHS-DIN-861	Clarification on Webhook callback responses	Fixed
MHHS-DIN-862	REP901 missing event code	Fixed
MHHS-DIN-864	CR024 - Update of two data items	Fixed

MHHS-DIN-866	DI-059 Contains "MAIN" in DI-059-Meter-Type enum, should be MAIN_ to align with ISD	Fixed
MHHS-DIN-867	Remove all references to UDS & UMDS in E2E SA doc	Fixed
MHHS-DIN-868	Correction of Advanced Data Service Validation and Estimation (Meth002)	Fixed
MHHS-DIN-869	ADS Method Alignment	Fixed
MHHS-DIN-870	IMS-SendMTD variant for IF-035 does not contain properties B070, B071 and B019 to align with DES-138	Fixed
MHHS-DIN-871	Changes to E2E SA doc & Swagger for replay message version support	Fixed
MHHS-DIN-872	Historic consumption data following the IF-015 request	Fixed
MHHS-DIN-873	Correction to VAS Method Statement	Fixed
MHHS-DIN-876	IF-003 LDSO routing is secondary not always	Fixed
MHHS-DIN-877	IF-001 Remove EES (CR023)	Fixed
MHHS-DIN-883	Data item clashes between DES138 and ECS Reports	Fixed
MHHS-DIN-884	CR032: Replacement of REP080 to use the P210	Fixed
MHHS-DIN-885	Add URLs pointing to new DTC format definition documents in ERI011B	Fixed
MHHS-DIN-886	Addition of 905 existing meter listing block to all events in IF-006	Fixed
MHHS-DIN-888	Property "type: object" missing from IF-024 variants in Swagger	Fixed

Refer to additional change information below and the published DIN log for further information on DINs listed.

5.1 Additional Change information

5.1.1 MHHS-DIN-850 / CR036 (Clock Time Reads and Appointments)

Below is a summary of the solution introduced by CR036;

- Agent Appointment Periods are in clock-time, unchanged from the process today.
- Agent Appointment & Supply Ownership periods are aligned.
- Data Services to be responsible for the collation and publication of consumption for the full UTC Day.
- This requires the IF-021 to be split in the event of a Change of Supplier during British Summer Time.
- The Consumption Data for the settlement periods prior to the de-appointment date/time should be shared with the Outgoing Supplier.
- Consumption Data between the de-appointment date/time and the end of the UTC Settlement Day should be shared with the Incoming Supplier and Incoming Data Service.
- No change to the existing Change of Supplier read convention as previously described in the baselined design.
- Settlement is accurate, in that consumption data is provided (actual or estimated using agreed method statement) for each and every HH period.
- Settlements is accurate to the HH, regardless of how a Settlement Day is defined.

The following artefacts were updated as part of this change;

Artefact	Version Number	Theme	Impact
MHHSP-BP003 - Change of Service - Data Service	V5.6.1	MPAN Ownership	Process Correction
MHHSP-BP003C-Transfer of Reads - Change of Data Service	V5.2	MPAN Ownership	Process Correction
DES138-Interface Catalogue	V5.7.1	Meter to Bank, Metering Changes, MPAN Ownership	Interface corrections
MHHSP-BRS001 - Data Service Requirements	V5.5	Supporting Documents	Requirement Correction
MHHSP-BRS003 - Registration Service requirements	V5.5	Supporting Documents	Requirement Correction
MHHSP-METH005 LSS_Method_Statement	V5.1	Supporting Documents	Statement correction
MHHSP-METH007_MDS_Method_Statement	V5.3	Meter to Bank	Statement correction

5.1.2 MHHS-DIN-745

Description of change

Make DI-120 Additional Information Mandatory nullable in Swagger to align with DES-138. Please refer to below screenshots for change:

Before:

```
864 DI-120-Additional-Information:  
865   description : A free format character string for providing additional details.  
866   type : string  
867   example: This is an example for additional info  
868 # DIN 689 remove      nullable: true  
869   maxLength : 2000  
870
```

After:

```
864 DI-120-Additional-Information:  
865   description : A free format character string for providing additional details.  
866   type : string  
867   example: This is an example for additional info  
868 # DIN 689 remove      nullable: true  
869 # DIN 745 add nullable back  
870   nullable: true  
871   maxLength : 2000  
872
```

5.1.3 MHHS-DIN-767

Description of change

For IF-043 the validation is failing due to the Custom Block. The required property name is 'CustomBlock' but the actual name is 'IF-043-CustomBlock' so Swagger needs to be updated to align to be CustomBlock. Please refer to below screenshots for change:

Before:

```
7246 # IF 043 - Registration Service Notification of Change in Connection Type
7247 # 25/8/22 ok
7248
7249 IF-043-Payload:
7250   description: IF-043 Registration Service Notification of Change in Connection Type
7251   type: object
7252   additionalProperties:
7253     false
7254   required:
7255     - CommonBlock
7256     - CustomBlock
7257   properties:
7258     CommonBlock:
7259       description:
7260       type: object
7261       additionalProperties:
7262         false
7263       required:
7264         - B023
7265       properties:
7266         B023:
7267           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.1#/components/schemas/B023'
7268
7269 IF-043-CustomBlock:
7270   description: IF043 Custom data block
7271   type: object
7272   additionalProperties:
7273     false
7274   required:
7275     - B023
7276   properties:
7277     B023:
7278       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.1#/components/schemas/B023'
```

After:

```
7558 IF-043-Payload:
7559   description: IF-043 Registration Service Notification of Change in Connection Type
7560   type: object
7561   additionalProperties:
7562     false
7563   required:
7564     - CommonBlock
7565     - CustomBlock
7566   properties:
7567     CommonBlock:
7568       description:
7569       type: object
7570       additionalProperties:
7571         false
7572       required:
7573         - B023
7574       properties:
7575         B023:
7576           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B023'
7577
7578 CustomBlock: #DIN-767
7579   description: IF043 Custom data block
7580   type: object
7581   additionalProperties:
7582     false
7583   required:
7584     - B023
7585   properties:
7586     B023:
7587       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B023'
```

5.1.4 MHHS-DIN-768

Description of change

On REP-901 report, the event code in the reports catalogue is defined [DUoSEmbeddedLDSOAggInvData] and [DUoSSupplierAggInvData] whereas on the Swagger Document it's DUoSSupplierInvData. Swagger has been updated to align with the ECS Reports Catalogue, see screenshots below:

Before:

```
REP-901-Payload:
description: LDSO E-Bill - Distribution Invoice
type: object
required:
  - CommonBlock
  - CustomBlock
additionalProperties:
  false
properties:
  CommonBlock:
    description: MHHS Common Block for REP901
    type: object
    additionalProperties:
      false
    properties:
      S0:
        description: Sender Header block
        type: object
        additionalProperties:
          false
        properties:
          interfaceID:
            type: string
            enum: ['REP-901']
          schemaVersion:
            description: Version of the message schema used in the exchange
            type: string
            example: '007'
            enum:
              - '007'
          eventCode:
            type: string
            enum:
              - '[DUoSSupplierInvData]'
```

After:

```
REP-901-Payload:
description: LDSO E-Bill - Distribution Invoice
type: object
required:
  - CommonBlock
  - CustomBlock
additionalProperties:
  false
properties:
  CommonBlock:
    description: MHHS Common Block for REP901
    type: object
    additionalProperties:
      false
    properties:
      S0:
        description: Sender Header block
        type: object
        additionalProperties:
          false
        properties:
          interfaceID:
            type: string
            enum: ['REP-901']
          schemaVersion:
            description: Version of the message schema used in the exchange
            type: string
            example: '007'
            enum:
              - '007'
          eventCode:
            type: string
            enum:
              - '[DUoSEmbeddedLDSOAggInvData]'
              - '[DUoSSupplierAggInvData]'
```

5.1.5 MHHS-DIN-769

Description of change

Update R901-05 block in Swagger to include DI-613. Please refer to screenshots below for change:

Before:

```
R901-05:
  description: Embedded LDSO ID (Mandatory)
  type: object
  additionalProperties:
    false
  properties:
    embeddedLDSOID:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.6#/components/schemas/DI-483-Embedded-LDSO-ID'
    dailyTotalList:
      $ref: '#/components/schemas/R901-06'
```

After:

```
R901-05:
  description: Embedded LDSO ID (Mandatory)
  type: object
  additionalProperties:
    false
  properties:
    LDSODIPID:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-613-LDSO-DIPID'
    embeddedLDSOID:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-483-Embedded-LDSO-ID'
    R901-06:
      type: array
      items:
        $ref: '#/components/schemas/R901-06'
```

5.1.6 MHHS-DIN-770

Description of change

Swagger for IF-026 for variant IF-026-SSCandProfileClass contains incorrect enumeration for IF-025. This needs to be updated in the list of enumerated value to be IF-026 in Swagger. Please refer to screenshots below for change:

Before

```
IF-026-SSCandProfileClass:
  type: object
  additionalProperties:
    false
  required:
    - CommonBlock
    - CustomBlock
  properties:
    CommonBlock:
      description: MHHS Common Block for IF-026 for SSCandProfileClass
      type: object
      additionalProperties:
        false
      required:
        - S0
        - S1
        - M0
        - R0
      properties:
        S0:
          description: Sender Header block
          type: object
          additionalProperties:
            false
          properties:
            interfaceID:
              type: string
              enum: ['IF-025']
            schemaVersion:
              description: Version of the message schema used in the exchange
              type: string
              example: '009'
              enum:
                - '009'
            eventCode:
              type: string
              enum:
                - '[SSCandProfileClass]'
          required:
            - interfaceID
            - schemaVersion
            - eventCode
```

After

```
IF-026-SSCandProfileClass:
  type: object
  additionalProperties:
    false
  required:
    - CommonBlock
    - CustomBlock
  properties:
    CommonBlock:
      description: MHHS Common Block for IF-026 for SSCandProfileClass
      type: object
      additionalProperties:
        false
      required:
        - S0
        - S1
        - M0
        - R0
      properties:
        S0:
          description: Sender Header block
          type: object
          additionalProperties:
            false
          properties:
            interfaceID:
              type: string
              enum: ['IF-026']
            schemaVersion:
              description: Version of the message schema used in the exchange
              type: string
              example: '009'
              enum:
                - '009'
            eventCode:
              type: string
              enum:
                - '[SSCandProfileClass]'
          required:
            - interfaceID
            - schemaVersion
            - eventCode
```


5.1.7 MHHS-DIN-771

Description of change

Update R900-03. listOfMPANSONsite to listOfMPANSONSite. Please refer to screenshots below for change:

Before:

```
R900-03:
description: R900-03 - LDSO Billing Site Info (Mandatory)
type: object
additionalProperties:
  false
properties:
  LDSOBillingAccountReference:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-563-LDSO-Billing-Account-Reference'
  DUoSTariffID:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-345-DUoS-Tariff-ID'
  LDSOBillingSiteID:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-565-LDSO-Billing-Site-ID'
  listOfMPANSONsite:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-566-List-Of-MPANS-On-Site'
  misalignedMultiMPANSite:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-567-Misaligned-Multi-MPAN-Site'
  LDSOBillingSiteCapacity:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-568-LDSO-Billing-Site-Capacity-'
  LDSOBillingSiteAddressLine1:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-569-LDSO-Billing-Site-Address-Line-1'
  LDSOBillingSiteAddressLine2:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-570-LDSO-Billing-Site-Address-Line-2'
  LDSOBillingSiteAddressLine3:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-571-LDSO-Billing-Site-Address-Line-3'
  LDSOBillingSiteAddressLine4:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-572-LDSO-Billing-Site-Address-Line-4'
  LDSOBillingSiteAddressLine5:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-573-LDSO-Billing-Site-Address-Line-5'
  LDSOBillingSiteAddressLine6:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-574-LDSO-Billing-Site-Address-Line-6'
  LDSOBillingSiteAddressLine7:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-575-LDSO-Billing-Site-Address-Line-7'
  LDSOBillingSiteAddressLine8:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-576-LDSO-Billing-Site-Address-Line-8'
  LDSOBillingSiteAddressLine9:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-577-LDSO-Billing-Site-Address-Line-9'
  LDSOBillingSitePostCode:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.5.2#/components/schemas/DI-578-LDSO-Billing-Site-Post-Code'
required:
  - LDSOBillingAccountReference
  - DUoSTariffID
  - LDSOBillingSiteID
  - listOfMPANSONsite
  - misalignedMultiMPANSite
  - LDSOBillingSiteCapacity
```

After:

```
R900-03:
description: R900-03 - LDSO Billing Site Info (Mandatory)
type: object
additionalProperties:
  false
properties:
  LDSOBillingAccountReference:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-563-LDSO-Billing-Account-Reference'
  DUoSTariffID:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-612-LDSO-Billing-DUoS-Tariff-ID'
  LDSOBillingSiteID:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-565-LDSO-Billing-Site-ID'
  #DIN-771
  listOfMPANSONSite:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-566-List-Of-MPANS-On-Site'
  misalignedMultiMPANSite:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-567-Misaligned-Multi-MPAN-Site'
  LDSOBillingSiteCapacity:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-568-LDSO-Billing-Site-Capacity-'
  LDSOBillingSiteAddressLine1:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-569-LDSO-Billing-Site-Address-Line-1'
  LDSOBillingSiteAddressLine2:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-570-LDSO-Billing-Site-Address-Line-2'
  LDSOBillingSiteAddressLine3:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-571-LDSO-Billing-Site-Address-Line-3'
  LDSOBillingSiteAddressLine4:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-572-LDSO-Billing-Site-Address-Line-4'
  LDSOBillingSiteAddressLine5:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-573-LDSO-Billing-Site-Address-Line-5'
  LDSOBillingSiteAddressLine6:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-574-LDSO-Billing-Site-Address-Line-6'
  LDSOBillingSiteAddressLine7:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-575-LDSO-Billing-Site-Address-Line-7'
  LDSOBillingSiteAddressLine8:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-576-LDSO-Billing-Site-Address-Line-8'
  LDSOBillingSiteAddressLine9:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-577-LDSO-Billing-Site-Address-Line-9'
  LDSOBillingSitePostCode:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-578-LDSO-Billing-Site-Post-Code'
required:
  - LDSOBillingAccountReference
  - DUoSTariffID
  - LDSOBillingSiteID
  #DIN-771
  - listOfMPANSONSite
```

5.1.8 MHHS-DIN-785

Description of change

Update IF-001-ChangeOfSupplier required fields on CommonBlocks that are incorrect. Please refer to screenshots below for change:

Before:

```
173 IF-001-ChangeOfSupplier:
174   description: IF001 Message
175   type: object
176   additionalProperties:
177     false
178   required:
179     - CommonBlock
180     - CustomBlock
181   properties:
182     CommonBlock:
183       type: object
184       additionalProperties:
185         false
186       required:
187         - CommonBlock
188         - CustomBlock
189       properties:
190         S0:
191           description: Sender Header block
192           type: object
193           properties:
194             interfaceID:
195               type: string
196               enum: ['IF-001']
197             schemaVersion:
198               description: Version of the message schema used in the exchange
199               type: string
200               example: '009'
201               enum:
202                 - '009'
203             eventCode:
204               type: string
205               enum:
206                 - '[ChangeOfSupplier]'
207           required:
208             - interfaceID
209             - schemaVersion
210             - eventCode
211
212   $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/S1'
213
214   A0:
215     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/A0'
216
217   D0:
218     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/D0'
219
220   M0:
221     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/M0'
```

After:

```
173 IF-001-ChangeOfSupplier:
174   description: IF001 Message
175   type: object
176   additionalProperties:
177     false
178   required:
179     - CommonBlock
180     - CustomBlock
181   properties:
182     CommonBlock:
183       type: object
184       additionalProperties:
185         false
186       required: # DIN-785
187         - S1
188         - A0
189         - M0
190       properties:
191         S0:
192           description: Sender Header block
193           type: object
194           properties:
195             interfaceID:
196               type: string
197               enum: ['IF-001']
198             schemaVersion:
199               description: Version of the message schema used in the exchange
200               type: string
201               example: '009'
202               enum:
203                 - '009'
204             eventCode:
205               type: string
206               enum:
207                 - '[ChangeOfSupplier]'
208           required:
209             - interfaceID
210             - schemaVersion
211             - eventCode
212
```

5.1.9 MHHS-DIN-788

Description of change

Added IF-009 MPANReconnection event code variant to Swagger. Please refer to screenshots below for change:

Before:

SCHEMA IF-009-Payload

SCHEMA IF-009-MPANDisconnection

SCHEMA IF-009-CSSDeRegistration

After:

SCHEMA IF-009-Payload

SCHEMA IF-009-MPANDisconnection

SCHEMA IF-009-MPANReconnection

SCHEMA IF-009-CSSDeRegistration

```
IF-009-MPANReconnection: # DIN-788
description: IF009 Message for MPAN Reconnection
type: object
additionalProperties:
  false
required:
  - CommonBlock
  - CustomBlock
properties:
  CommonBlock:
    description: MHHS Common Block for IF-009 MPAN Reconnection
    type: object
    additionalProperties:
      false
    required:
      - S0
      - S1
      - M0
    properties:
      S0:
        description: Sender Header block
        type: object
        additionalProperties:
          false
        properties:
          interfaceID:
            type: string
            enum: ['IF-009']
          schemaVersion:
            description: Version of the message schema used in the exchange
            type: string
            example: '010'
            enum:
              - '010'
          eventCode:
            type: string
            enum:
              - '[MPANDReconnection]'
        required:
          - interfaceID
          - schemaVersion
          - eventCode
      S1:
        $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/S1'
      A0:
        $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/A0'
      D0:
        $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/D0'
      M0:
        $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/M0'
```

5.1.10 MHHS-DIN-792

Description of change

Update regex patterns for the following data type: DI-123. Please refer to screenshots below for change:

Before:

```
887 DI-123-SSC:
888   description : A legacy classification, retained solely f
889   type : string
890   nullable: true
891   minLength : 4
892   maxLength : 4
893   example : '0123'
894
```

After:

```
887 DI-123-SSC:
888   description : A legacy classification, retained solely
889   type : string
890   nullable: true
891   minLength : 4
892   maxLength : 4
893   #DIN-792
894   pattern: ^\d{4,4}$
895   example : '0123'
896
```

5.1.11 MHHS-DIN-799

Description of change

Updating of the Swagger and E2E001 to align to Open API standards in relation to case sensitivity. The Section in the E2E001 is 4.4.3 and Swagger its the removal of a comment at the top of swagger file.

Screenshot from E2E001 Architecture document.

[The DIP will ~~not~~ be enforcing ~~any~~ capitalisation checks on message ingress for path names and message structure. ~~However~~ data items within messages are also case sensitive and the DIP will not convert between cases: data will pass through unaltered. This follows OpenAPI standards. Enumeration checks undertaken by the DIP are case sensitive, e.g.e.g. for the CommonBlock/S1/environment the term 'PROD' is accepted, whilst 'prod' or 'Prod' are rejected. A significant amount of legacy data items where case is important pass through the DIP and hence the reason why these checks are applied).

Generate return code based on the results of the above checks for the all the messages received in the single transaction.]

The list of bespoke response codes are described in the swagger.

5.1.12 MHHS-DIN-801

Description of change

Inconsistency between ECS Reports Catalogue and Swagger. For all items below, Swagger is to be updated to align with the ECS Reports Catalogue, please refer to screenshots below for change:

- REP-002B -- R027 and R013 - Distributor and GSP blocks are missing from REP-002B in Swagger. Add missing blocks, see screenshot below:

```
REP-002B-CustomBlock:
description: REP002 Custom data block - LDSO report for DUOS - aggregated data
type: object
additionalProperties:
  false
properties:
  #DIN-801 added 2 blocks below
  R027:
    # Distributor ID
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECSCCommonBlocks/1.7#/components/schemas/R027'
  R013:
    # GSP Group
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECSCCommonBlocks/1.7#/components/schemas/R013'
  R007:
    # Settlement Run Execution
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECSCCommonBlocks/1.7#/components/schemas/R007'
  R002:
    # Settlement Run Execution
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECSCCommonBlocks/1.7#/components/schemas/R002'
  REP002B-R009:
    # Supplier MPID
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECSCCommonBlocks/1.7#/components/schemas/REP002B-R009'
```

- REP-003 -- R024 contains DI-496 in the ECS reports, but in Swagger it contains DI-307. Update to DI-496, see screenshot below:

```
R024 :
description : GSP Group Correction Factors
type: object
additionalProperties:
  false
properties:
  settlementPeriodID:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-496-Settlement-Period'
  groupCorrectionFactorImport:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-322-Group-Correction-Factor-Import'
  groupCorrectionFactorExport:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-323-Group-Correction-Factor-Export'
required:
- settlementPeriodID
- groupCorrectionFactorImport
- groupCorrectionFactorExport
```

- REP-003 -- R9017 contains correctAndUncorrectComponent does not contain block R018 in the name. Update naming, see screenshot below:

```
REP003-R017:
description: R017 - extended records
type: object
additionalProperties:
  false
properties:
  R017:
    $ref: '#/components/schemas/R017'
  R019:
    # DIN 471 moved so parent is R017
    $ref: '#/components/schemas/R019' # DIN 471 moved so parent is R017
  REP003-R018:
    type: array
    items:
      $ref: '#/components/schemas/R018'
```

- REP-004 -- R025 and R026 should have parent of R009 according to ECS catalogue, but Swagger has these defined with no parent. Update Swagger to align, see screenshot below:

```

REP004-R009:
  description : Supplier Deemed Take
  type: object
  additionalProperties:
    false
  properties:
    R009:
      # Supplier ID
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/ECSCCommonBlocks/1.7#/components/schemas/R009'

REP004-R026:
  type: array
  items:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/ECSCCommonBlocks/1.7#/components/schemas/R026'

REP004-R025:
  type: array
  items:
    # Daily Supplier Deemed Take
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/ECSCCommonBlocks/1.7#/components/schemas/R025'

```

- REP-006 -- R003 contains R033. R033 should have DI-496, 374, 359, and 360, but in Swagger, contains 307, 374, 359 & 360. Update to DI-496, see screenshot below:

```

R033:
  description : Uncorrected Aggregated Volumes
  type: object
  additionalProperties:
    false
  properties:
    settlementPeriod:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-496-Settlement-Period'
    MSIDCount:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-374-MSID-Count'
    uncorrectedBMUnitPeriodLevelConsumption:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-359-Uncorrected-BM-Unit-Period-Level-Consumption'
    uncorrectedBMUnitPeriodLevelConsumptionLosses:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-360-Uncorrected-BM-Unit-Period-Level-Consumption-Losses'
  required:
    - settlementPeriod
    - MSIDCount
    - uncorrectedBMUnitPeriodLevelConsumption
    - uncorrectedBMUnitPeriodLevelConsumptionLosses

```

- REP-006 -- R051 says parent is R032 in ECS reports catalogue, but R051 does not appear in the Swagger in R032. As a result, R106 or R107 which should be part of R051 is missing. Add the missing blocks to align, see screenshot below:

```

REP006-R032:
description: R032 - extended records
type: object
additionalProperties:
  false
properties:
  R032:
    $ref: '#/components/schemas/R032'
  REP006-R003:
    type: array
    items:
      $ref: '#/components/schemas/REP006-R003'
  REP006-R051:
    type: array
    items:
      $ref: '#/components/schemas/REP006-R051'

REP006-R003:
description: R003 - extended records
type: object
additionalProperties:
  false
properties:
  R003:
    $ref: '#/components/schemas/R003'
  REP006-R033:
    type: array
    items:
      $ref: '#/components/schemas/R033'
  R034:
    $ref: '#/components/schemas/R034'

REP006-R051:
description: Demand Disconnection Event Details - extended REP003
type: object
additionalProperties:
  false
properties:
  R051:
    $ref: '#/components/schemas/R051'

  # R022/R023 used in REP003
  REP006-R106:
    type: array # array of settlement periods
    items:
      $ref: '#/components/schemas/R106'
  R107: # only one - single daily value
    $ref: '#/components/schemas/R023'

```

- REP-009 -- The R013 block contains R016 in Swagger, but in the ECS Catalogue, this is R013 > R068. Update R013 in Swagger to contain R068, see screenshot below:

```

REP009-R015:
description: R015 - extended records
type: object
additionalProperties:
  false
properties:
  # Supplier
  R015:
    $ref: '#/components/schemas/R015'
  REP009-R013:
    description: GSPs for the Supplier
    type: array
    items:
      $ref: '#/components/schemas/REP009-R013'

REP009-R013:
description: R013 - extended records
type: object
additionalProperties:
  false
properties:
  R013:
    $ref: '#/components/schemas/R013'
  REP009-R068:
    description: Period Metering data for the GSP
    type: array
    items:
      $ref: '#/components/schemas/R068'

```


- REP-900 -- R900-03 contains DI-345 in Swagger, when it should contain DI-612. Also marked incorrectly as required. Update Swagger to use DI-612, see screenshot below:

```

R900-03:
description: R900-03 - LDSO Billing Site Info (Mandatory)
type: object
additionalProperties:
  false
properties:
  LDSOBillingAccountReference:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-563-LDSO-Billing-Account-Reference'
  DUoSTariffID:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-612-LDSO-Billing-DUoS-Tariff-ID'
  LDSOBillingSiteID:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-565-LDSO-Billing-Site-ID'
  #DIN-771
  listOfMPANSONSite:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-566-List-Of-MPANS-On-Site'
  misalignedMultiMPANSite:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-567-Misaligned-Multi-MPAN-Site'
  LDSOBillingSiteCapacity:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-568-LDSO-Billing-Site-Capacity-'
  LDSOBillingSiteAddressLine1:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-569-LDSO-Billing-Site-Address-Line-1'
  LDSOBillingSiteAddressLine2:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-570-LDSO-Billing-Site-Address-Line-2'
  LDSOBillingSiteAddressLine3:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-571-LDSO-Billing-Site-Address-Line-3'
  LDSOBillingSiteAddressLine4:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-572-LDSO-Billing-Site-Address-Line-4'
  LDSOBillingSiteAddressLine5:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-573-LDSO-Billing-Site-Address-Line-5'
  LDSOBillingSiteAddressLine6:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-574-LDSO-Billing-Site-Address-Line-6'
  LDSOBillingSiteAddressLine7:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-575-LDSO-Billing-Site-Address-Line-7'
  LDSOBillingSiteAddressLine8:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-576-LDSO-Billing-Site-Address-Line-8'
  LDSOBillingSiteAddressLine9:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-577-LDSO-Billing-Site-Address-Line-9'
  LDSOBillingSitePostCode:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-578-LDSO-Billing-Site-Post-Code'
required:
  - LDSOBillingAccountReference
  - DUoSTariffID
  - LDSOBillingSiteID
  #DIN-771
  - listOfMPANSONSite
  - misalignedMultiMPANSite
  - LDSOBillingSiteCapacity
  - LDSOBillingSiteAddressLine1
  - LDSOBillingSiteAddressLine2
  - LDSOBillingSiteAddressLine3
  - LDSOBillingSiteAddressLine4
  - LDSOBillingSiteAddressLine5
  - LDSOBillingSiteAddressLine6
  - LDSOBillingSiteAddressLine7
  - LDSOBillingSiteAddressLine8
  - LDSOBillingSiteAddressLine9
  - LDSOBillingSitePostCode

```

5.1.13 MHHS-DIN-803

Description of change

Naming standards are inconsistently applied in ECS reports catalogue for nested structures and lists, meaning it you have blocks that contain blocks with the same name, as there is no naming mechanism to easily link nested block name to contains, or back to ECS reports catalogue. This change introduces a new naming pattern as follows:

SCHEMA REP002-R027

SCHEMA REP002-R013

SCHEMA REP002-R010

SCHEMA REP002A-R006

SCHEMA REP002A-R010

SCHEMA REP002B-R009

SCHEMA REP002B-R010

SCHEMA REP003-R015

SCHEMA REP003-R016

SCHEMA REP003-R017

SCHEMA REP003-R051

SCHEMA REP003A-R015

SCHEMA REP003A-R016

SCHEMA REP003A-R020

SCHEMA REP003A-R051

SCHEMA REP004-R009

SCHEMA REP006-R032

SCHEMA REP006-R003

SCHEMA REP006-R051

SCHEMA REP007-R013

SCHEMA REP009-R015

SCHEMA REP009-R013

The proposal ensures that we apply consistent naming across the ECS Reports when we use a list. The proposal means that we would have a property REP002-R027 property, that uses a REP002-R027 schema, that contains R027 common block and REP002-R013 property, as given on the example below for REP002.

```
REP-002
  R007
->  R002
->  R009
->  REP002-R027
    ->  R027
    ->  REP002-R013
      ->  R013
      ->  REP002-R010
        ->  R010
        ->  R015
        ->  REP002-R011
```

With this, we would have the following:

1. self-describing schema - a schema that is easily linked to the report and property i.e., REP002-R027 is easier to translate than R9007.
2. In addition, it's clear that the property contains one or more blocks (or other lists). REP002-R027 contains an R027 and REP002-R013 schema block.
3. it's easier to navigate from the ECS reports catalogue directly to the swagger i.e., find R013 block in REP-002.
4. Allows for future extensibility / changes - if you remove REP002-R013 from REP002-R027, there is no change to any naming. Same if you add anything.
5. Simple to transition from R9007 (which does not give you any of the above) to REP002-R027 across the board
6. Does not increase the number of blocks, this is a translation / renaming exercise

5.1.14 MHHS-DIN-805

Description of change

There is a bug in Swagger Hub, where in the examples, it doesn't like leading zero on non-string delimited strings / numbers. The work around is to string delimit. This change also includes a regular expression, please refer to the screenshots below for change:

Before:

```
DI-123-SSC:
  description : A legacy classification, retained soley for a subset of Traditional Meters, to
    assist with the allocation of gross consumption to individual Settlement Periods.
  type : string
  nullable: true
  minLength : 4
  maxLength : 4
  example : 0123
```

After:

```
887 DI-123-SSC:
888   description : A legacy classification, retained sole
889   type : string
890   nullable: true
891   minLength : 4
892   maxLength : 4
893   #DIN-792
894   pattern: ^\d{4,4}$
895   example : '0123'
896
```

5.1.15 MHHS-DIN-807

There is currently no detail in the E2E001 of how data should be compressed and uncompressed for the ECS reports, this information is held in CR030 and DRG documentation. Please see screenshot below of changes made in the E2E001 design document in section 4.5 that contains steps required for compression and decompression of the data.

4.5 Message Compression Handling

Message compression is used in the ECS reports Interfaces to ensure that the report size is within a notional upper limit for the size of messages accepted by the DIP provider, as well as ECS reports received by upstream & downstream participants. This message pattern for compressed payload involves using gzip to compress the data, then base64 encode the data. The reverse is true for decompression.

This new pattern for compressed payloads will be introduced for the following reports:

- REP-002 Supplier report for DUoS – aggregated data
- REP-002A Embedded Network report for DUoS – aggregated data
- REP-002B LDSO report for DUoS – aggregated data
- REP-003 BM Unit Allocated Demand Volumes to Market Participants
- REP-003A Aggregated BM Unit Allocated Demand Volumes to Supplier
- REP-004 Supplier Deemed Take Report
- REP-006 Aggregated Uncorrected volumes by CCC to Market Participants
- REP-007 VAS Exception Report to Suppliers and BSCCo
- REP-008 MDS Exception Report to LDSOs
- REP-009 EMRS Report for Suppliers

Messages currently comprise of two blocks – a CommonBlock and a CustomBlock. Compression and Decompression are concerned with the data contained within the CustomBlock.]

4.5.1 Compression Steps

The following steps happen for compression as follows:

- The sender (ECS) compresses the contents of the CustomBlock of the report using GZIP.
- The sender takes this compressed data and then BASE64 encodes the data.
- The sender takes this BASE64 encoded data and inserts this into the (empty) CustomBlock (P03 property as below)

Any data / schema validation should be completed by the sender prior to data compression steps above. Message processing continues as with other interfaces and the CommonBlock / HTTP Header is not changed. Message signing will take place on message payload post data compression.

In the Swagger definition, the Custom Block for the ECS reports contains the following

- P03 property – to be used for the compressed payload following the instructions above
- Schema property - this is the uncompressed message to be used for validation. This will not be populated / contain any data at runtime.

5.1.16 MHHS-DIN-819

Description of change

Update REP-004 and Swagger the eventCode = [SupplierDemandTakeReport], and supplier is spelt incorrectly. Please refer to the screenshots below for change:

Before:

```
8016 # REP004 - Supplier Deemed Take Report
8017
8018 REP-004-Payload:
8019   description: Supplier Deemed Take Report
8020   type: object
8021   required:
8022     - CommonBlock
8023     - CustomBlock
8024   additionalProperties:
8025     false
8026   properties:
8027     CommonBlock:
8028       description: MHHS Common Block for REP004
8029       type: object
8030       additionalProperties:
8031         false
8032       properties:
8033         S0:
8034           description: Sender Header block
8035           type: object
8036           additionalProperties:
8037             false
8038           properties:
8039             interfaceID:
8040             schemaVersion:
8041             eventCode:
8042               type: string
8043               enum:
8044                 - '[SupplierDemandTakeReport]'
8045
```

After:

```
8399 # REP004 - Supplier Deemed Take Report
8400
8401 REP-004-Payload:
8402   description: Supplier Deemed Take Report
8403   type: object
8404   required:
8405     - CommonBlock
8406     - CustomBlock
8407   additionalProperties:
8408     false
8409   properties:
8410     CommonBlock:
8411       description: MHHS Common Block for REP004
8412       type: object
8413       additionalProperties:
8414         false
8415       properties:
8416         S0:
8417           description: Sender Header block
8418           type: object
8419           additionalProperties:
8420             false
8421           properties:
8422             interfaceID:
8423             schemaVersion:
8424             eventCode:
8425               type: string
8426               enum:
8427                 - '[SupplierDeemedTakeReport]'
8428
8429     S1:
8430       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/S1'
8431
8432     A0:
8433       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/A0'
8434
8435     D0:
8436       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/D0'
8437
```

5.1.17 MHHS-DIN-821

Description of change

Update IF-041 so that this list contains whether a B064 list OR B065 list. Please refer to the screenshots below for change:

Before:

```
7218 CustomBlock:
7219   description: IF041 Custom data block
7220   type: object
7221   additionalProperties:
7222     false
7223   properties:
7224
7225   #properties: # DIN-447 - Updated to be either OR
7226   # B064 or B065 block
7227
7228   B06465List:
7229     anyOf:
7230       #B064List
7231       - type: array
7232         items:
7233           # Conditionally Mandatory
7234           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.1#/components/schemas/B064'
7235
7236       #B065List
7237       - type: array
7238         items:
7239           # Smart Meter Configurable Register Readings (Optional)
7240           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.1#/components/schemas/B065'
7241         maxItems: 48
7242
```

After:

```
7566 CustomBlock:
7567   description: IF041 Custom data block
7568   type: object
7569   additionalProperties:
7570     false
7571   properties:
7572
7573   #properties: # DIN-447 - Updated to be either OR
7574   # B064 or B065 block
7575   # DIN-821 remove anyOf pattern - revert to standard message pattern
7576
7577   B064List:
7578     type: array
7579     items:
7580       # Conditionally Mandatory
7581       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/B064'
7582
7583   B065List:
7584     type: array
7585     items:
7586       # Smart Meter Configurable Register Readings (Optional)
7587       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/B065'
7588     maxItems: 48
7589
```

5.1.18 MHHS-DIN-822

Description of change

Swagger update for inclusion of missing attribute in IF-007. Please refer to the screenshots below for change:

Before:

```
1520 IF-007-EnergisationStatusChange:
1521   description: IF007 Message for Energisation Status Change
1522   type: object
1523   additionalProperties:
1524     false
1525   required:
1526     - CommonBlock
1527     - CustomBlock
1528   properties:
1529     CommonBlock:
1568
1569
1570     CustomBlock:
1571       description: IF007 Custom data block EnergisationStatusFailure
1572       type: object
1573       additionalProperties:
1574         false
1575       properties:
1576         B025:
1577           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B025'
1578
1579
1580 IF-007-EnergisationStatusFailure:
1581   description: IF007 Message for EnergisationStatusFailure
1582   type: object
1583   additionalProperties:
1584     false
1585   required:
1586     - CommonBlock
1587     - CustomBlock
1588   properties:
1589     CommonBlock:
1627
1628
1629     CustomBlock:
1630       description: IF007 Custom data block EnergisationStatusFailure
1631       type: object
1632       additionalProperties:
1633         false
1634       properties:
1635         B040:
1636           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B040'
1637
```

After:

```
1520 IF-007-EnergisationStatusChange:
1521   description: IF007 Message for Energisation Status Change
1522   type: object
1523   additionalProperties:
1524     false
1525   required:
1526     - CommonBlock
1527     - CustomBlock
1528   properties:
1529     CommonBlock:
1568
1569
1570     CustomBlock:
1571       description: IF007 Custom data block EnergisationStatusFailure
1572       type: object
1573       additionalProperties:
1574         false
1575       required:
1576         - B025 #DIN-822
1577       properties:
1578         B025:
1579           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B025'
1580
1581
1582 IF-007-EnergisationStatusFailure:
1583   description: IF007 Message for EnergisationStatusFailure
1584   type: object
1585   additionalProperties:
1586     false
1587   required:
1588     - CommonBlock
1589     - CustomBlock
1590   properties:
1591     CommonBlock:
1627
1628
1629     CustomBlock:
1630       description: IF007 Custom data block EnergisationStatusFailure
1631       type: object
1632       additionalProperties:
1633         false
1634       required:
1635         - B040 #DIN-822
1636       properties:
1637         B040:
1638           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B040'
1639
1640
```

5.1.19 MHHS-DIN-823

Description of change

Swagger update for inclusion of missing attribute in IF-008. This R0 replacing M0 in the common block and B025 added as a required property. Please refer to the screenshots below for change:

Before:

```
1649 IF-008-Payload:
1650 description: IF008 - Registration Service Change of Energisation Status Notification
1651 type: object
1652 additionalProperties:
1653   false
1654 required:
1655   - CommonBlock
1656   - CustomBlock
1657 properties:
1658   CommonBlock:
1659     description: MHHS Common Block for IF-008
1660     type: object
1661     additionalProperties:
1662       false
1663     required:
1664       - S0
1665       - S1
1666       - M0
1667     properties:
1668       S0:
1669         description: Sender Header block
1670         type: object
1671         properties:
1672           interfaceID:
1673             type: string
1674             enum: ['IF-008']
1675           schemaVersion:
1681 eventCode:
1685 required:
1686   - interfaceID
1687   - schemaVersion
1688   - eventCode
1689
1690   S1:
1691     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/S1'
1692   A0:
1693     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/A0'
1694   D0:
1695     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/D0'
1696   M0:
1697     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/M0'
1698   R0:
1699     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/R0'
1700
1701   CustomBlock:
1702     description: IF008 Custom data block
1703     type: object
1704     additionalProperties:
1705       false
1706     properties:
1707       B025:
1708         $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B025'
1709
```

After:

```
1649 IF-008-Payload:
1650 description: IF008 - Registration Service Change of Energisation Status Notification
1651 type: object
1652 additionalProperties:
1653   false
1654 required:
1655   - CommonBlock
1656   - CustomBlock
1657 properties:
1658   CommonBlock:
1659     description: MHHS Common Block for IF-008
1660     type: object
1661     additionalProperties:
1662       false
1663     required:
1664       - S0
1665       - S1
1666       - M0
1667       - R0 # DIN-823
1668     properties:
1669       S0:
1670         description: Sender Header block
1671         type: object
1672         properties:
1673           interfaceID:
1674             type: string
1675             enum: ['IF-008']
1676           schemaVersion:
1682 eventCode:
1685 required:
1686   - interfaceID
1687   - schemaVersion
1688   - eventCode
1689
1690   S1:
1691     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/S1'
1692   A0:
1693     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/A0'
1694   D0:
1695     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/D0'
1696   M0:
1697     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/M0'
1698   R0:
1699     $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/R0'
1700
1701   CustomBlock:
1702     description: IF008 Custom data block
1703     type: object
1704     additionalProperties:
1705       false
1706     required:
1707       - B025 # DIN-823
1708     properties:
1709       B025:
1710         $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B025'
1711
```


5.1.20 MHHS-DIN-824

Description of change

Swagger update for inclusion of missing attribute M0 in the Common Block in IF-004. Please refer to the screenshots below for change:

Before:

```
767
768 IF-004-Payload:
769   description: IF-004 Message
770   type: object
771   additionalProperties:
772     false
773   required:
774     - CommonBlock
775     - CustomBlock
776   properties:
777     CommonBlock:
778       description: MHHS Common Block for IF-004
779       type: object
780       additionalProperties:
781         false
782       required:
783         - S0
784         - S1
785       properties:
786         S0:
787
788         S1:
789           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/S1'
790         A0:
791           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/A0'
792         D0:
793           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/D0'
794         M0:
795           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/M0'
796
797
```

After:

```
766 # IF 004 - Comms Hub Information
767
768 IF-004-Payload:
769   description: IF-004 Message
770   type: object
771   additionalProperties:
772     false
773   required:
774     - CommonBlock
775     - CustomBlock
776   properties:
777     CommonBlock:
778       description: MHHS Common Block for IF-004
779       type: object
780       additionalProperties:
781         false
782       required:
783         - S0
784         - S1
785         #DIN-824
786         - M0
787       properties:
788         S0:
789
790         S1:
791           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/S1'
792         A0:
793           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/A0'
794         D0:
795           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/D0'
796         M0:
797           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/M0'
798
```

5.1.21 MHHS-DIN-825

Description of change

Swagger update for inclusion of missing attribute in IF-024. Please refer to the screenshots below for change, **there are 4 separate changes**:

- Change 1 - IF024 SN-Vacant CustomBlock required B057
- Change 2 - IF024 SN-NoComms CustomBlock required B057
- Change 3 - IF024 SNRemoteEnabled CustomBlock required B057, B069
- Change 4 - IF024 SNSupplierAC CustomBlock required B057, B058

Before Change 1:

```
CustomBlock:
  description: IF024 Custom data block
  type: object
  additionalProperties:
    false
  properties:
    B057:
      # Supplier Advisory Notification (Mandatory)
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B057'
```

After Change 1:

```
CustomBlock:
  description: IF024 Custom data block
  type: object
  additionalProperties:
    false
  # DIN-825
  required:
    - B057
  properties:
    B057:
      # Supplier Advisory Notification (Mandatory)
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B057'
```

Before Change 2:

```
CustomBlock:
  description: IF024 Custom data block
  type: object
  additionalProperties:
    false
  properties:
    B057:
      # Supplier Advisory Notification (Mandatory)
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B057'
```

After Change 2:

```
CustomBlock:
  description: IF024 Custom data block
  type: object
  additionalProperties:
    false
  #DIN-825
  required:
    - B057
  properties:
    B057:
      # Supplier Advisory Notification (Mandatory)
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B057'
```

Before Change 3:

```
CustomBlock:
  description: IF024 Custom data block
  type: object
  additionalProperties:
    false
  properties:
    B057:
      # Supplier Advisory Notification (Mandatory)
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B057'
    B069:
      # Supplier Advisory Notification Meter ID (Mandatory for SN-RemoteEnabled and SN-RemoteDisabled)
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B069'
```

After Change 3:

```
CustomBlock:
  description: IF024-SN-RemoteEnabled Custom data block
  type: object
  additionalProperties:
    false
  required: # DIN-825
    - B057
    - B069
  properties:
    B057:
      # Supplier Advisory Notification (Mandatory)
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B057'
    B069:
      # Supplier Advisory Notification Meter ID (Mandatory for SN-RemoteEnabled and SN-RemoteDisabled)
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B069'
```

Before Change 4:

```
CustomBlock:
  description: IF024 Custom data block
  type: object
  additionalProperties:
    false
  properties:
    B057:
      # Supplier Advisory Notification (Mandatory)
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B057'
    B058:
      # Supplier Nominated Annual Consumption (Mandatory for Event [SN-SupplierAC])
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B058'
```

After Change 4:

```
CustomBlock:
  description: IF024-SN-SupplierAC Custom data block
  type: object
  additionalProperties:
    false
  required:
    - B057
    - B058
  properties:
    B057:
      # Supplier Advisory Notification (Mandatory)
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B057'
    B058:
      # Supplier Nominated Annual Consumption (Mandatory for Event [SN-SupplierAC])
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B058'
```

5.1.22 MHHS-DIN-827

Description of change

Swagger update for inclusion of missing custom block in IF-015. Please refer to the screenshots below for change:

Before:

```
2021 # INF 015 - Request Historic Consumption Replay (ADV Sites Only)
2022 # 25/08/22 - ok
2023
2024 IF-015-Payload:
2025   description: IF-015 Request Historic Consumption Replay (ADV Sites Only)
2026   type: object
2027   additionalProperties:
2028     false
2029   required:
2030     - CommonBlock
2031     - CustomBlock
2032   properties:
2033     CommonBlock:
2075
```

After:

```
2021 # INF 015 - Request Historic Consumption Replay (ADV Sites Only)
2022 # 25/08/22 - ok
2023
2024 IF-015-Payload:
2025   description: IF-015 Request Historic Consumption Replay (ADV Sites Only)
2026   type: object
2027   additionalProperties:
2028     false
2029   required:
2030     - CommonBlock #DIN-827
2031   properties:
2032     CommonBlock:
2074
```

5.1.23 MHHS-DIN-828

Description of change

Swagger update for incorrect name of custom block in IF-045. Please refer to the screenshots below for change:

Before:

```
7732 # IF 045 - Registration Service Reminder Notification
7733 # IF 045 - Registration Service Reminder Notification
7734
7735 IF-045-Payload:
7736   description: IF045 Registration Service Reminder Notification
7737
7738   type: object
7739   additionalProperties:
7740     false
7741   required:
7742     - CommonBlock
7743     - CustomBlock
7744   properties:
7745     CommonBlock:
7746
7747
7748     IF-045-CustomBlock:
7749       description: IF045 Custom data block
7750       type: object
7751       additionalProperties:
7752         false
7753       properties:
7754         B060:
7755           # Registration reminder additional information
7756           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B060'
7757
```

After:

```
7733 # IF 045 - Registration Service Reminder Notification
7734
7735 IF-045-Payload:
7736   description: IF045 Registration Service Reminder Notification
7737
7738   type: object
7739   additionalProperties:
7740     false
7741   required:
7742     - CommonBlock
7743     - CustomBlock
7744   properties:
7745     CommonBlock:
7746
7747
7748     CustomBlock: #DIN-828
7749       description: IF045 Custom data block
7750       type: object
7751       additionalProperties:
7752         false
7753       properties:
7754         B060:
7755           # Registration reminder additional information
7756           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B060'
7757
```

5.1.24 MHHS-DIN-829

Description of change

Swagger updated for DI-838 to allow null enum in the list of allowable values. Please refer to the screenshots below for change:

Before:

```
DI-838-Supplier-Proposed-Consent-Granularity:
  description : Supplier Proposed Domestic Indicator
  type : string
  nullable: true
  maxLength : 1
  example : H
  enum:
    - H # HH Consent Granted
    - D # Daily Reads Only
    - M # Monthly Reads Only
```

After:

```
DI-838-Supplier-Proposed-Consent-Granularity:
  description : Supplier Proposed Domestic Indicator
  type : string
  nullable: true
  maxLength : 1
  example : H
  enum:
    - H # HH Consent Granted
    - D # Daily Reads Only
    - M # Monthly Reads Only
    - x # Obfuscated value #DIN-858
    - null # DIN-829 need to add null
```

5.1.25 MHHS-DIN-830

Description of change

Swagger update for inclusion of missing attribute – `additionalProperties:false` in Custom Block for variants of IF-001. Please refer to the screenshots below for change:

Before

```
CustomBlock:
  description: IF001 Custom data block
  type: object
  properties:
    B013:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5#/components/schemas/B013'
    B002:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5#/components/schemas/B002'
    B003:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5#/components/schemas/B003'
    B004:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5#/components/schemas/B004'
    B005:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5#/components/schemas/B005'
    B022:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5#/components/schemas/B022'
    B023:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5#/components/schemas/B023'
    B024:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5#/components/schemas/B024'
```

After

```
CustomBlock:
  description: IF001 Custom data block
  type: object
  additionalProperties: false
  properties:
    B013:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B013'
    B002:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B002'
    B003:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B003'
    B004:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B004'
    B005:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B005'
    B022:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B022'
    B023:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B023'
```

5.1.26 MHHS-DIN-832

Description of change

Swagger updated to include [MeterUpdate] as Optional for B039 in IF-006. Please refer to the screenshots below for change:

Before:

```
1388 IF-006-MeterUpdate:
1389   description: IF006 Message for MeterUpdate
1390   type: object
1391   additionalProperties:
1392     false
1393   required:
1394     - CommonBlock
1395     - CustomBlock
1396   properties:
1397     CommonBlock:
1435
1436     CustomBlock:
1437       description: IF006 Custom data block for MeterUpdate
1438       type: object
1439       additionalProperties:
1440         false
1441       required:
1442         - B906
1443       properties:
1444         B906: # required
1445           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B906a'
1446
1447         B030: # optional
1448           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B030'
1449
1450         B905List: # optional
1451           type: array
1452           items:
1453             #074/075
1454             $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B905'
1455
1456
```

After:

```
1388 IF-006-MeterUpdate:
1389   description: IF006 Message for MeterUpdate
1390   type: object
1391   additionalProperties:
1392     false
1393   required:
1394     - CommonBlock
1395     - CustomBlock
1396   properties:
1397     CommonBlock:
1435
1436     CustomBlock:
1437       description: IF006 Custom data block for MeterUpdate
1438       type: object
1439       additionalProperties:
1440         false
1441       required:
1442         - B906
1443       properties:
1444         B906: # required
1445           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B906a'
1446
1447         B030: # optional
1448           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B030'
1449
1450         B039: # optional DIN-842 addition
1451           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/B039'
1452
1453         B905List: # optional
1454           type: array
1455           items:
1456             #074/075
1457             $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B905'
1458
1459
```


5.1.27 MHHS-DIN-836

Description of change

Added all the Response Codes from DES-138 into a new Response Codes schema in Swagger, see screenshot below for more information:

After:

The screenshot shows the Swagger UI interface for the 'ResponseCodes' schema. The left sidebar displays the schema name 'DI-999-Response-Codes'. The main area shows the OpenAPI schema definition for this schema, which is a string type with a minimum length of 5 and a maximum length of 7. The schema includes a list of response codes and their descriptions, such as 'MSG0000 # Success', 'MSG1000 # Message Processing Failed', and 'RCP1062 # PUB Unexpected given MPAN Process Status/Condition'.

```
28 components:
29
30
31 #####
32 # Common data models
33 #####
34 schemas:
35   DI-999-Response-Codes:
36     description: MHHS Response Codes
37     type: string
38     minLength: 5
39     maxLength: 7
40     example: MSG0000
41     enum:
42       - MSG0000 # Success
43       - MSG1000 # Message Processing Failed
44       - MSG1001 # Schema Failure
45       - MSG1002 # Interface ID Invalid
46       - MSG1006 # Sender Unique Reference Duplicated
47       - MSG1007 # Sender Timestamp Invalid
48       - MSG1009 # Sender DIP ID Invalid
49       - MSG1010 # Sender Role Invalid
50       - MSG1011 # Connection Provider ID Invalid
51       - MSG1012 # Sender Correlation ID Invalid
52       - MSG1030 # Msg Addressing / Routing Error
53       - MSG1031 # Primary Recipient(s) DIP Participant ID Invalid
54       - MSG1032 # Primary Recipient(s) DIP Role ID Invalid
55       - MSG1033 # Secondary Recipient(s) DIP Participant ID Invalid
56       - MSG1034 # Secondary Recipient(s) DIP Role ID Invalid
57       - MSG1035 # Always Recipient(s) DIP Participant ID Invalid
58       - MSG1036 # Always Recipient(s) DIP Role ID Invalid
59       - MSG1037 # Cannot Resolve Secondary Recipient(s) for Missing MPAN
60       - MSG1038 # Cannot Resolve Secondary Recipient(s) for MPAN/Party/Event Combination
61       - RCP0000 # Message Success
62       - RCP1000 # Message Processing Failed
63       - RCP1001 # Schema Failure
64       - RCP1002 # Interface ID Invalid
65       - RCP1003 # Event Code Invalid, Unexpected or Missing
66       - RCP1004 # Environment Code Invalid, Unexpected or Missing
67       - RCP1005 # Schema Version Invalid or Not Compatible
68       - RCP1006 # Sender Unique Reference Missing or Duplicated
69       - RCP1007 # Sender Sent Date/Time Invalid or Missing
70       - RCP1008 # Sender Sent Date/Time is in the Future
71       - RCP1009 # Sender DIP ID Invalid, Unexpected or Missing
72       - RCP1010 # Sender Role Invalid, Unexpected or Missing
73       - RCP1021 # Msg Mandatory Data Item Missing
74       - RCP1022 # Msg Contains Invalid Value for Value Restricted Field
75       - RCP1023 # Msg Contains Invalid Valid Value Combination(s)
76       - RCP1041 # Recipient ID Invalid, Unexpected or Missing
77       - RCP1042 # Publication ID Invalid, Unexpected or Missing
78       - RCP1043 # DIP Txn ID Invalid, Unexpected or Missing
79       - RCP1044 # DIP Txn Timestamp Invalid or Missing
80       - RCP1045 # DIP Txn Timestamp is in the Future
81       - RCP1046 # DIP Correlation ID Invalid, Unexpected or Missing
82       - RCP1047 # Replay Indicator Invalid or Unexpected
83       - RCP1051 # R0 Response Code Invalid
84       - RCP1052 # R0 Response Code Inconsistent with Error Condition(s)
85       - RCP1061 # MPAN Invalid or Unknown
86       - RCP1062 # PUB Unexpected given MPAN Process Status/Condition
```

5.1.28 MHHS-DIN-842

Description of change

REP-900 and 901 do not have the compression schema defined as per other reports, so this has been added in the latest version of the Swagger, see screenshots below:

Before

```
REP-900-Payload:
description: LDSO E-Bill - Distribution Invoice
type: object
required:
  - CommonBlock
  - CustomBlock
additionalProperties:
  false
properties:
  CommonBlock:
    description: MHHS Common Block for REP900
    type: object
    additionalProperties:
      false
    properties:
      S0:
        description: Sender Header block
        type: object
        additionalProperties:
          false
        properties:
          interfaceID:
            type: string
            enum: [ 'REP-900' ]
            schemaVersion:
              description: Version of the message schema used in the exchange
              type: string
              example: '006'
              enum:
                - '006'
            eventCode:
              type: string
              enum:
                - '[DuoSupplierInvData]'
          S1:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/S1'
          A0:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/A0'
          D0:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/D0'
        required:
          - S0
          - S1
      CustomBlock:
        description: MHHS Common Block for REP002, report adopts REP-002-CustomBlock format
        type: object
        additionalProperties:
          false
        required:
          - P03
        properties:
          P03:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/P03'
```

```
REP-901-Payload:
description: LDSO E-Bill - Distribution Invoice
type: object
required:
  - CommonBlock
  - CustomBlock
additionalProperties:
  false
properties:
  CommonBlock:
    description: MHHS Common Block for REP901
    type: object
    additionalProperties:
      false
    properties:
      S0:
        description: Sender Header block
        type: object
        additionalProperties:
          false
        properties:
          interfaceID:
            type: string
            enum: [ 'REP-901' ]
            schemaVersion:
              description: Version of the message schema used in the exchange
              type: string
              example: '006'
              enum:
                - '006'
            eventCode:
              type: string
              enum:
                - '[DuoSupplierInvData]'
          S1:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/S1'
          A0:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/A0'
          D0:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/D0'
        required:
          - S0
          - S1
      CustomBlock:
        description: MHHS Common Block for REP901, report adopts REP-901-CustomBlock format
        type: object
        additionalProperties:
          false
        required:
          - P03
        properties:
          P03:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.5.2#/components/schemas/P03'
```

After:

```
REP-900-Payload:
description: LDSO E-Bill - Distribution Invoice
type: object
required:
  - CommonBlock
  - CustomBlock
additionalProperties:
  false
properties:
  CommonBlock:
    description: MHHS Common Block for REP900
    type: object
    additionalProperties:
      false
    properties:
      S0:
        description: Sender Header block
        type: object
        additionalProperties:
          false
        properties:
          interfaceID:
            type: string
            enum: [ 'REP-900' ]
            schemaVersion:
              description: Version of the message schema used in the exchange
              type: string
              example: '007'
              enum:
                - '007'
            eventCode:
              type: string
              enum:
                - '[DuoSupplierInvData]'
          S1:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/S1'
          A0:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/A0'
          D0:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/D0'
        required:
          - S0
          - S1
      CustomBlock:
        description: MHHS Common Block for REP002, report adopts REP-002-CustomBlock format
        type: object
        additionalProperties:
          false
        required:
          - P03
        properties:
          P03:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/P03'
          schema:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECS-Reports/1.7#/components/schemas/REP-900-CustomBlock'
```

```
REP-901-Payload:
description: LDSO E-Bill - Distribution Invoice
type: object
required:
  - CommonBlock
  - CustomBlock
additionalProperties:
  false
properties:
  CommonBlock:
    description: MHHS Common Block for REP901
    type: object
    additionalProperties:
      false
    properties:
      S0:
        description: Sender Header block
        type: object
        additionalProperties:
          false
        properties:
          interfaceID:
            type: string
            enum: [ 'REP-901' ]
            schemaVersion:
              description: Version of the message schema used in the exchange
              type: string
              example: '007'
              enum:
                - '007'
            eventCode:
              type: string
              enum:
                - '[DuoEmbeddedLDSOAggInvData]'
                - '[DuoSupplierAggInvData]'
          S1:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/S1'
          A0:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/A0'
          D0:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/D0'
        required:
          - S0
          - S1
      CustomBlock:
        description: MHHS Common Block for REP901, report adopts REP-901-CustomBlock format
        type: object
        additionalProperties:
          false
        required:
          - P03
        properties:
          P03:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/P03'
          schema:
            $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECS-Reports/1.7#/components/schemas/REP-901-CustomBlock'
```

5.1.29 MHHS-DIN-843

Description of change

RCP0000 added to DES138 and Swagger as a valid a response code to support L3 response codes, see screenshot below.

After:

```
DI-999-Response-Codes:
  description : MHHS Response Codes
  type : string
  minLength : 5
  maxLength : 7
  example : MSG0000
  enum:
    - MSG0000 # Success
    - MSG1000 # Message Processing Failed
    - MSG1001 # Schema Failure
    - MSG1002 # Interface ID Invalid
    - MSG1006 # Sender Unique Reference Duplicated
    - MSG1007 # Sender Timestamp Invalid
    - MSG1009 # Sender DIP ID Invalid
    - MSG1010 # Sender Role Invalid
    - MSG1011 # Connection Provider ID Invalid
    - MSG1012 # Sender Correlation ID Invalid
    - MSG1030 # Msg Addressing / Routing Error
    - MSG1031 # Primary Recipient(s) DIP Participant ID Invalid
    - MSG1032 # Primary Recipient(s) DIP Role ID Invalid
    - MSG1033 # Secondary Recipient(s) DIP Participant ID Invalid
    - MSG1034 # Secondary Recipient(s) DIP Role ID Invalid
    - MSG1035 # Always Recipient(s) DIP Participant ID Invalid
    - MSG1036 # Always Recipient(s) DIP Role ID Invalid
    - MSG1037 # Cannot Resolve Secondary Recipient(s) for Missing MPAN
    - MSG1038 # Cannot Resolve Secondary Recipient(s) for MPAN/Party/Event Combination
    - RCP0000 # Message Success
```

5.1.30 MHHS-DIN-844

Description of change

Updated Message Structures in DES-138 for IF-061, 062, 063, 064, 065 for CR-023 changes. Updated Swagger to align with DES-138 and add new Interfaces and Interface References, see screenshots below for more information:

After

New Interface references added, see below

```
- $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/Interfaces-EventCodes/1.7#/components/schemas/IF-061-Payload' # DIN-844
- $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/Interfaces-EventCodes/1.7#/components/schemas/IF-062-Payload' # DIN-844
- $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/Interfaces-EventCodes/1.7#/components/schemas/IF-063-Payload' # DIN-844
- $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/Interfaces-EventCodes/1.7#/components/schemas/IF-064-Payload' # DIN-844
- $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/Interfaces-EventCodes/1.7#/components/schemas/IF-065-Payload' # DIN-844
```

New interfaces added, see summarised versions below, complete versions not included as these are all new.

```
# DIN-844 introduction of MDR reports

# New 18/01/2024
# IF 061 - MDR Start
  IF-061-Payload: [ ]

# IF 062 - MDR Start Response
  IF-062-Payload: [ ]

# IF 063 - MDR Stop
  IF-063-Payload: [ ]

# IF 064 - MDR Consumption
  IF-064-Payload: [ ]

# IF 065 - MDR Request / Provide Meter Reading
```

New Values added in the enumerations for DT-000 and DT-983.

```
DT-000-InterfaceID:
description: Interface ID
type: string
minLength: 6
maxLength: 8
example: IF-007
enum:
# list of allowable INFs
- IF-001 # Notification of Change of Supplier
- IF-002 # Notification to New Supplier of Site Information
- IF-003
- IF-004
- IF-005 # Metering Service MTD Updates to Registration
- IF-006 # Registration Service Notification of MTD Updates
- IF-007 # Change of Energisation Status Outcome
- IF-008
- IF-009
- IF-013
- IF-014
- IF-015
- IF-016
- IF-018
- IF-019
- IF-020
- IF-021
- IF-022
- IF-023
- IF-024
- IF-025
- IF-026
- IF-027
- IF-028
- IF-031
- IF-032
- IF-033
- IF-034
- IF-035
- IF-036
- IF-037
- IF-038
- IF-039
- IF-040
- IF-041
- IF-043
- IF-044
- IF-045
- IF-047
- IF-050
- IF-061 # DIN-844
- IF-062 # DIN-844
- IF-063 # DIN-844
- IF-064 # DIN-844
- IF-065 # DIN-844
```

```
DT-983-PublicationID:
description: Publication ID
type: string
minLength: 6
maxLength: 8
example: 'PUB-007'
enum:
- PUB-001 # Notification of Change of Supplier
- PUB-002 # Notification to New Supplier of Site Information
- PUB-003
- PUB-005 # Metering Service MTD Updates to Registration
- PUB-006 # Registration Service NotPublication of MTD Updates
- PUB-007 # Change of Energisation Status Outcome
- PUB-008
- PUB-009
- PUB-013
- PUB-014
- PUB-015
- PUB-016
- PUB-018
- PUB-019
- PUB-020
- PUB-021
- PUB-022
- PUB-023
- PUB-024
- PUB-025
- PUB-026
- PUB-027
- PUB-028
- PUB-031
- PUB-032
- PUB-033
- PUB-034
- PUB-035
- PUB-036
- PUB-037
- PUB-038
- PUB-039
- PUB-040
- PUB-041
- PUB-043
- PUB-044
- PUB-045
- PUB-047
- PUB-050
- PUB-061 # DIN-844
- PUB-062 # DIN-844
- PUB-063 # DIN-844
- PUB-064 # DIN-844
- PUB-065 # DIN-844
```

5.1.31 MHHS-DIN-845

Description of change

The REP900 "List of MPANs" field. It is currently optional in the REP900 and should be mandatory. Additional chargeType values have been added to DI-596 in both DES-138 and Swagger, see screenshots below:

After

```
R900-03:
description: R900-03 - LDSO Billing Site Info (Mandatory)
type: object
additionalProperties:
  false
properties:
  LDSOBillingAccountReference:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-563-LDSO-Billing-Account-Reference'
  DUoSTariffID:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-612-LDSO-Billing-DUoS-Tariff-ID'
  LDSOBillingSiteID:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-565-LDSO-Billing-Site-ID'
  #DIN-771
  listOfMPANsonSite:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-566-List-Of-MPANs-On-Site'
  misalignedMultiMPANSite:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-567-Misaligned-Multi-MPAN-Site'
  LDSOBillingSiteCapacity:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-568-LDSO-Billing-Site-Capacity-'
  LDSOBillingSiteAddressLine1:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-569-LDSO-Billing-Site-Address-Line-1'
  LDSOBillingSiteAddressLine2:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-570-LDSO-Billing-Site-Address-Line-2'
  LDSOBillingSiteAddressLine3:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-571-LDSO-Billing-Site-Address-Line-3'
  LDSOBillingSiteAddressLine4:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-572-LDSO-Billing-Site-Address-Line-4'
  LDSOBillingSiteAddressLine5:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-573-LDSO-Billing-Site-Address-Line-5'
  LDSOBillingSiteAddressLine6:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-574-LDSO-Billing-Site-Address-Line-6'
  LDSOBillingSiteAddressLine7:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-575-LDSO-Billing-Site-Address-Line-7'
  LDSOBillingSiteAddressLine8:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-576-LDSO-Billing-Site-Address-Line-8'
  LDSOBillingSiteAddressLine9:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-577-LDSO-Billing-Site-Address-Line-9'
  LDSOBillingSitePostCode:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-578-LDSO-Billing-Site-Post-Code'
required:
  - LDSOBillingAccountReference
  - DUoSTariffID
  - LDSOBillingSiteID
  #DIN-771 / 845
  - listOfMPANsonSite
  - misalignedMultiMPANSite
  - LDSOBillingSiteCapacity
  - LDSOBillingSiteAddressLine1
  - LDSOBillingSiteAddressLine2
  - LDSOBillingSiteAddressLine3
  - LDSOBillingSiteAddressLine4
  - LDSOBillingSiteAddressLine5
  - LDSOBillingSiteAddressLine6
  - LDSOBillingSiteAddressLine7
  - LDSOBillingSiteAddressLine8
  - LDSOBillingSiteAddressLine9
  - LDSOBillingSitePostCode
```

DI-594	Total Invoice Amount inc VAI	The invoice total including VAI	LDSO	DI-025	String(19)	M	In L.p
>>R900-05 - LDSO Billing Invoice Lines							
DI-596	ChargeType	The invoice line charge type	LDSO		String(5)	M	Values = FIXED, CAPAC, XSCAP, REACT, RED, AMBER, GREEN, YELLO, BLACK, SUPER, ZERO
DI-597	Number Of Days Billed	the number of days being billed for the charge type	INT(2)		INT(2)	M	Number of days in billing period up to 31 days

```
2136
2137 DI-596-Charge-Type:
2138   description: Charge Type
2139   type: string
2140   maxLength: 5
2141   example : Fixed
2142   enum:
2143     - CAPAC # DIN-845
2144     - XCSAP # removed - as sme XSCAP is correct
2145     - FIXED
2146     - CAPAC
2147     - XSCAP
2148     - REACT
2149     - RED
2150     - AMBER
2151     - GREEN
2152     - YELLO
2153     - BLACK
2154     - SUPER
2155     - ZERO
2156
```

5.1.32 MHHS-DIN-846

Description of change

B050 consumptionComponentClassID property inconsistency between ECS reports catalogue and Swagger. In the ECS reports catalogue, in IR2 and IR5 this is an INT3, min 100 and max 999. This was correct in Swagger 1.2, but in Swagger 1.5, this has reverted to a String3 with min / max values of 3, so does not align to ECS reports catalogue. Swagger to be updated to align with latest version of ECS reports catalogue, see screenshots below:

Before:

```
DI-300-Consumption-Component-Class-ID:  
  description : The reference number for a consumption component class.  
  type : string  
  minLength : 3  
  maxLength : 3  
  example: '001'
```

After:

```
DI-300-Consumption-Component-Class-ID: # DIN-846  
  description : The reference number for a consumption component class.  
  type : integer  
  minimum : 100  
  maximum : 999  
  example: 123
```

5.1.33 MHHS-DIN-849

Description of change

In IF035 SDS-MDROutcome variant, make B099 a single block in the swagger rather than a list to align with DES-138. See screenshot of changes below for before and after.

Before:

```
CustomBlock:
  description: IF035 Custom data block for SDS-MDROutcome
  type: object
  additionalProperties:
    false
  required:
    - B012
    - B092
    - B099List
  properties:
    B012:
      # Service Provider Appointment Requesting Supplier
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B012'
    B013:
      # CSS Switch ID
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B013'
    B092:
      # SDS MDR Outcome
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B092'
    B099List:
      type: array
      items:
        # Response Block
        $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B099'
```

After:

```
6262 IF-035-SDS-MDROutcome:
6263   description: MHHS Common Block for IF-035 MDROutcome
6264   type: object
6265   additionalProperties:
6266     false
6267   required:
6268     - CommonBlock
6269     - CustomBlock
6270   properties:
6271     CommonBlock:
6312
6313
6314   CustomBlock:
6315     description: IF035 Custom data block for SDS-MDROutcome
6316     type: object
6317     additionalProperties:
6318       false
6319     required:
6320       - B012
6321       - B092
6322       - B099 # DIN-849
6323     properties:
6324       B012:
6325         # Service Provider Appointment Requesting Supplier
6326         $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B012'
6327       B013:
6328         # CSS Switch ID
6329         $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B013'
6330       B092:
6331         # SDS MDR Outcome
6332         $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B092'
6333       B099: # DIN-849
6334         # Response Block
6335         $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B099'
6336
6337
```

5.1.34 MHHS-DIN-854

Description of change

Update example in the DI-085 property to align with a EUI base 64 address, akin to an IP v6 address, using HEX values only in the example. Please refer to screenshots below for change:

Before:

```
DI-085-ESME-GUID:  
  description : The Smart Device ID for a smart meter. This is also known as the DCC GUID and is further defined within the DCC interface specifications.  
  type : string  
  nullable: true  
  maxLength : 23  
  example : SC-12-34-56-78-90-12-34
```

After:

```
DI-085-ESME-GUID:  
  description : The Smart Device ID for a smart meter. This is also known as the DCC GUID and is further defined within the DCC interface specifications.  
  type : string  
  nullable: true  
  maxLength : 23  
  example : 0C-A2-F4-00-00-76-21-BC
```

5.1.35 MHHS-DIN-858

Description of change

Ensure all enumerated type that are obfuscated contain the obfuscated value in the enumerated list. This change affects the following:

IF-035:

- DI-979 Response Code
- DI-800 Service Provider Appointment Scenario
- DI-838 Supplier Proposed Consent Granularity
- DI-126 Traditional Fall Back Read Frequency

IF-036:

- DI-017 Consent Granularity

Obfuscated DIP IDs will be 9999999999 as the regex dictates it needs to be a 10-character numeric string

Please refer to screenshots below for change, there will be 5 separate changes:

Before Change 1:

```
2501
2502 DI-979-Response-Code:
2503     description : Outcome Code associated with a Business Process Action Request
2504
2505     type : string
2506     minLength : 1
2507     maxLength : 1
2508     example : A
2509     enum:
2510         - A # Accepted
2511         - R # Rejected
2512         - L # Lapsed
2513         - W # Warning
```

After Change 1:

```
DI-979-Response-Code:
    description : Outcome Code associated with a Business Process Action Request
    type : string
    minLength : 1
    maxLength : 1
    example : A
    enum:
        - A # Accepted
        - R # Rejected
        - L # Lapsed
        - W # Warning
        - x # obfuscated value #DIN-858
```

Before Change 2:

```
DI-800-Appointment-Scenario:
    description : Code used to identify the scenario around a Service Provider Appointment.
    type : string
    maxLength : 3
    example : COS
    enum:
        - COS # Change of Supplier
        - CSP # Change of SP
        - USP # Update existing SP App
        - SEG # Change of ConnType or MkSeg
        - MCA # Migration Change of Agent
        - MCS # Migration Change of Supplier
        - ALG # Auto Alignment
```

After Change 2:

```
DI-800-Appointment-Scenario:
description : Code used to identify the scenario around a Service Provider Appointment.
type : string
maxLength : 3
example : COS
enum:
- COS # Change of Supplier
- CSP # Change of SP
- USP # Update existing SP App
- SEG # Change of ConnType or MkSeg
- MCA # Migration Change of Agent
- MCS # Migration Change of Supplier
- ALG # Auto Alignment
- xxx # Obfuscated value #DIN-858
```

Before Change 3:

```
2373 DI-838-Supplier-Proposed-Consent-Granularity:
2374 description : Supplier Proposed Domestic Indicator
2375 type : string
2376 nullable: true
2377 maxLength : 1
2378 example : H
2379 enum:
2380 - H # HH Consent Granted
2381 - D # Daily Reads Only
2382 - M # Monthly Reads Only
2383 - null # DIN-729 need to add null
2384
```

After Change 3:

```
2373 DI-838-Supplier-Proposed-Consent-Granularity:
2374 description : Supplier Proposed Domestic Indicator
2375 type : string
2376 nullable: true
2377 maxLength : 1
2378 example : H
2379 enum:
2380 - H # HH Consent Granted
2381 - D # Daily Reads Only
2382 - M # Monthly Reads Only
2383 - x # Obfuscated value #DIN-858
2384 - null # DIN-729 need to add null
```

Before Change 4:

```
DI-126-Traditional-Fall-Back-Read-Frequency:
description : Supplier requested Traditional / Fall Back Meter Reading Frequency
type : string
nullable: true
maxLength : 1
example : Q
enum:
- W # Weekly
- F # Fortnightly
- M # Monthly
- Q # Quarterly
- S # Six Monthly
- A # Annually
- null # - DIN-476 - change for nullable enum
```

After Change 4:

```
908 DI-126-Traditional-Fall-Back-Read-Frequency:
909   description : Supplier requested Traditional / Fall Back Meter Reading Frequency
910   type : string
911   nullable: true
912   maxLength : 1
913   example : Q
914   enum:
915     - W # Weekly
916     - F # Fortnightly
917     - M # Monthly
918     - Q # Quarterly
919     - S # Six Monthly
920     - A # Annually
921     - x # Obfuscated value #DIN-858
922     - null # - DIN-476 - change for nullable enum
923
```

Before Change 5:

```
121 DI-017-Consent-Granularity:
122   description : Describes the granularity of energy settlement data that a customer has deemed to
123   have consented to.
124   type : string
125   example : H
126   enum:
127     - H # HH Consent Granted
128     - D # Daily Reads Only
129     - M # Monthly Reads Only
130     - null # DIN-729 need to add null
131
```

After Change 5:

```
121 DI-017-Consent-Granularity:
122   description : Describes the granularity of energy settlement data that a customer has deemed to
123   have consented to.
124   type : string
125   example : H
126   enum:
127     - H # HH Consent Granted
128     - D # Daily Reads Only
129     - M # Monthly Reads Only
130     - x # obfuscated value #DIN-858
131     #- null # DIN-729 need to add null
132
```

5.1.36 MHHS-DIN-859

Description of change

REP-900 has been updated so that there is one REP-900 per invoice rather than per Supplier. Currently a single D2021 is sent to a supplier containing all their HH invoices produced on that billing day. Please see screenshots below.

Before

```
292
293 # REP900
294
295 REP-900-CustomBlock:
296   description: REP900 Custom data block
297   type: object
298   additionalProperties:
299     false
300   properties:
301     R900-01:
302       # LDSO Billing Distributor Info
303       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECS-CommonBlocks/1.7#/components/schemas/R900-01'
304     R900-02:
305       # LDSO Billing Supplier Info
306       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECS-CommonBlocks/1.7#/components/schemas/R900-02'
307     R900-03:
308       # LDSO Billing Site Info
309       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECS-CommonBlocks/1.7#/components/schemas/R900-03'
310     R900-04:
311       # Invoice Data
312       $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECS-CommonBlocks/1.7#/components/schemas/R900-04'
313     R900-05:
314       description: Invoice Lines
315       type: array
316       items:
317         $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/ECS-CommonBlocks/1.7#/components/schemas/R900-05'
318
319 # REP901
```

```
R900-05:
description: R900-05 - Invoice Lines
type: object
additionalProperties:
  false
properties:
  chargeType:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.6#/components/schemas/DI-596-Charge-Type'
  numberOfDaysBilled:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.6#/components/schemas/DI-597-Number-Of-Days-Billed'
  quantity:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.6#/components/schemas/DI-598-Quantity'
  price:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.6#/components/schemas/DI-599-Price'
  totalChargeForChargeTypeExVAT:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.6#/components/schemas/DI-600-Total-Charge-For-Charge-Type-Ex-VAT'
  VATRateCode:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.6#/components/schemas/DI-601-VAT-Rate-Code'
  VATRate:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/DataCatalogue/1.6#/components/schemas/DI-602-VAT-Rate'
required:
  - chargeType
  - numberOfDaysBilled
  - quantity
  - price
  - totalChargeForChargeTypeExVAT
  - VATRateCode
  - VATRate
```

After

```
292
293 # REP900
294
295 REP-900-CustomBlock:
296   description: REP900 Custom data block
297   type: object
298   additionalProperties:
299     false
300   properties:
301     R900-01:
302       # LDSO Billing Distributor Info
303       $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/ECS-CommonBlocks/1.7#/components/schemas/R900-01'
304     R900-02:
305       # LDSO Billing Supplier Info
306       $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/ECS-CommonBlocks/1.7#/components/schemas/R900-02'
307     R900-03:
308       # LDSO Billing Site Info
309       description: LDSO Billing Site Info
310       type: array
311       items:
312         $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/ECS-CommonBlocks/1.7#/components/schemas/R900-03'
313     R900-04:
314       # Invoice Data
315       description: LDSO Billing Invoice Data
316       type: array
317       items:
318         $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/ECS-CommonBlocks/1.7#/components/schemas/R900-04'
319
320 # REP900
```

```
R900-04:
description: R900-04 - LDSO Billing Site Info (Mandatory)
type: object
additionalProperties:
  false
properties:
  LDSOBillingInvoiceType:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-580-LDSO-Billing-Invoice-Type'
  taxPointDate:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-581-Tax-Point-Date'
  invoiceDate:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-582-Invoice-Date'
  invoiceDueDate:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-583-Invoice-Due-Date'
  LDSOBillingInvoiceNumber:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-584-LDSO-Biling-Invoice-Number'
  siteSpecificDUoSInvoiceType:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-585-Site-Specific-DUoS-Invoice-Type'
  LDSOBillingCancelledInvoiceNumber:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-586-LDSO-Billing-Cancelled-Invoice-Number'
  cancelledInvoiceDate:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-587-Cancelled-Invoice-Date'
  chargePeriodStartDate:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-588-Charge-Period-Start-Date'
  chargePeriodEndDate:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-589-Charge-Period-End-Date'
  maximumDemandInTheInvoicePeriod:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-590-Maximum-Demand-In-The-Invoice-Period'
  maximumDemandInTheInvoicePeriodDateTime:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-591-Maximum-Demand-In-The-Invoice-Period-Date-Time'
  totalInvoiceAmountExVAT:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-592-Total-Invoice-Amount-Ex-VAT'
  totalInvoiceVAT:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-593-Total-Invoice-VAT'
  totalInvoiceAmountIncVAT:
    $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-594-Total-Invoice-Amount-Inc-VAT'
# DIN-859
R900-05:
description: Invoice Lines
type: array
items:
  $ref: '#/components/schemas/R900-05'
```

5.1.37 MHHS-DIN-861

Description of change

Observations from SIT have highlighted some inconsistencies in HTTP responses between participants systems and the DIP, this DIN has been raised to define a standard set of response codes that will be used. Also described are how http responses received from the DIP should be interpreted, and what http responses the DIP is expecting back from participants webhooks.

The tables below describe the expected behaviour, including any expected retry behaviour, be it automatic or manually initiated, that a participant system and the DIP are expected to undertake. The HTTP codes and retry polices attempt to follow, what is considered, standard industry practice.

The first table introduces the ingress of messages to the DIP. The automated retry and retry behaviour columns presents the suggested behaviour a participant's system is expected to follow, but not mandated as they will have their own mitigation policies already defined.

DIP Ingress ("Level 1" validation)					
Code	Messages	Automated Retry	Reason	Action	Retry Behaviour
2xx	Successful				
201	Messages Created		Messages successfully received by DIP and passed L1 validation (All messages have a MSG0000 in the corresponding response block)		
207	Some Messages Created	no	Some or no messages are created, i.e. some messages have a MSG0000 message in the corresponding response block, others will have a response code in the range MSG1000 to 1012.	Reform failed messages and resend in new transaction. If problem persists, contact DIP 1st line support	
2xx	Other 200 messages		The DIP will only send 201 or 207 in the successful receipt of messages		
4xx	Client Errors				
400	Bad Request	no	Malformed messages or HTTP Header content.	Reform message to to align with swagger definitions. If submitting messages in-batch submit in smaller batches to establish problem message. If problem persists contact DIP 1st line support	
401	Unauthorised Error	no	Issues related to Message Signing Certificates, Header problems or Account Issue (this includes any errors related to the X-API Key).	Ensure certificate validity; check cert has not expired. If problem persists, contact DIP 1st line support	after rectifying cert issue reattempt sending messages

403	Forbidden	no	Issues related to TLS Certificates (including authentication failures), alongside other general 403 related issues ie, could be IP blocking	Contact DIP 1st line support	Retry after new security measures (cert/account) in place
404	Not Found	no	Resource not found	If problem persists, contact DIP 1st line support	Resource could be temporarily unavailable, hence assume a periodic retry
405	Method Not Allowed	no	Requested method unsupported	Contact DIP 1st line support	
406	Not Acceptable	no	Requested method unsupported	Contact DIP 1st line support	
408	Request Timeout	yes	System timeout waiting for resource	If problem persists, contact DIP 1st line support	Adopt an automated back-off and retry algorithm for sending messages.
413	Payload Too Large	no	Request is too large for firewall/gateway	Reduce payload size where possible, if not possible contact support.	retry after dialogue with 1st line support
429	Too Many Requests	yes	Rate limiting in force.	Wait, if symptom persists after cool-off period then contact support	Adopt an automated back-off and retry algorithm for sending messages.
4xx	Other 400 messages		The DIP will send any other 400 messages	Contact DIP 1st line support	
5xx	Server Errors				
500	Internal Server Error	yes	The DIP is aware that it has encountered an error or is otherwise incapable of performing the request	Retry, but if problem persists contact DIP 1st line support	Adopt an automated back-off and retry algorithm for sending messages.
502	Bad Gateway	yes			
503	Service Unavailable	yes			
504	Gateway Timeout	yes			

505	HTTP Version Not Supported	no	Contact support	Contact DIP 1st line support	
5xx	Other 500 messages		The DIP will not send any other 500 messages		

The second table introduces the egress of messages to the DIP. The automated retry and retry behaviour columns presents the pattern of behaviour that the DIP will undertake in the event of an error code.

DIP Egress; i.e. webhook ("Level 3" validation)						
Code	Messages	Retry	Reason	Action	Retry Behaviour	Notify Sender via a status Message
2xx	Successful					
201	Messages Created		Messages successfully received by Recipient and passed L3 validation.			
207	Some Messages Created	No	Some messages successfully received by Recipient and passed L3 validation.	The DIP will automatically send status messages for those messages failing validation		Yes; those messages failing validation
2xx	Other 200 messages		Participant systems should only send 201 or 207 messages			
4xx	Client Errors					
400	Bad Request	no	Malformed messages or HTTP Header content.	The DIP will automatically send status messages for those messages failing validation		Yes
401	Unauthorised Error	no	Issues related to Message Signing Certificates, Header problems or Account Issue (this includes any errors related to the X-API Key).	Ensure certificate validity; check cert has not expired. If problem persists contact DIP 1st line support	If participant believes issue is fixed then request messages to be resent via DIP replay	No
403	Forbidden	no	Issues related to TLS Certificates (including authentication failures), alongside other general 403 related issues ie, could be IP blocking	Contact DIP 1st line support	If participant believes issue is fixed then request messages to be resent via DIP replay	No
404	Not Found	no	Resource not found	Resource could be temporarily unavailable, hence assume a periodic retry. If problem	If participant believes issue is fixed then request messages to be resent via DIP replay	No

				persists contact DIP 1st line support		
405	Method Not Allowed	no	Requested method unsupported	Assume significant issue with participant system. Contact DIP 1st line support	If participant believes issue is fixed then request messages to be resent via DIP replay	Yes
406	Not Acceptable	no	Requested method unsupported	Assume significant issue with participant system. Contact DIP 1st line support	If participant believes issue is fixed then request messages to be resent via DIP replay	Yes
408	Request Timeout	yes	System timeout waiting for resource		The DIP will adopt a retry with an exponential back-off whilst attempts to rectify the issue are made	No
413	Payload Too Large	no	Request is too large for firewall/gateway	Participant can reduce size of webhook callback via API/portal. If still unsuccessful contact 1st line DIP support	If participant believes issue is fixed then request messages to be resent via DIP replay	No
429	Too Many Requests	yes	Rate limiting in force.	Assumption is that the participant system has implemented some rate limiting on their gateway	The DIP will adopt a retry with an exponential back-off	No
4xx	Other 400 messages		The DIP is not expecting to receive any other 400 message	Contact DIP 1st line support		
5xx Server Errors						
500	Internal Server Error	yes	The DIP is aware that it has encountered an error with the Participant system.	Contact DIP 1st line support	The DIP will adopt a retry with an exponential back-off whilst attempts to rectify the issue are made	No
502	Bad Gateway	yes				

503	Service Unavailable	yes				
504	Gateway Timeout	yes				
505	HTTP Version Not Supported	no	Contact support			
5xx	Other 500 messages		The DIP is not expecting to receive any other 500 message			

The above section is integrated into the E2E Solution Architecture document.

The actual change to the swagger to implement the above is as follows:

Before:

```
279 /dip-channel/{id}/pubconfig/{recipient-id}:
280 post:
281   summary: Configure DIP Channel Publication
282   description: Allows a Market Participant to configure the output channel
283   operationId: configurePublication
284   tags:
285     - DIP Channel Publication Configuration
286   parameters:
287     - $ref: '#/components/parameters/MessageChannel'
288     - $ref: '#/components/parameters/MessageRecipientId'
289     - $ref: '#/components/parameters/CommonSignatureHeader'
290     - $ref: '#/components/parameters/CommonSignatureDateHeader'
291     - $ref: '#/components/parameters/CommonSHA256Header'
292     - $ref: '#/components/parameters/CommonSignatureCertificateHeader'
293
294   requestBody:
295     required: true
296     content:
297       application/json:
298         schema:
299           $ref: '#/components/schemas/WebhookConfig'
300
301   callbacks:
302     outEvent:
303       '{$request.body#/config.callbackURL}':
304         post:
305           requestBody:
306             required: true
307             content:
308               application/json:
309                 schema:
310                   $ref: '#/components/schemas/DIPMessageArray'
311
312           responses:
313             '200':
314               description: OK
315               content:
316                 application/json:
317                   schema:
318                     $ref: '#/components/schemas/StandardResponse'
319
320             '207':
321               description: Some messages accepted
322               content:
323                 application/json:
324                   schema:
325                     $ref: '#/components/schemas/StandardResponse'
326
```

After:

```
callbacks:
  outEvent:
    '{$request.body#/config.callbackURL}':
      post:
        requestBody:
          required: true
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/DIPMessageArray'
        responses:
          '201':
            description: Messages Created
            content:
              application/json:
                schema:
                  $ref: '#/components/schemas/StandardResponse'
          '207':
            description: Some Messages Created
            content:
              application/json:
                schema:
                  $ref: '#/components/schemas/StandardResponse'
          '400': # no retry
            description: Bad Request
          '401': # no retry
            description: Unauthorised Error
          '403': # no retry
            description: Forbidden
          '404': # no retry
            description: Not found
          '405': # no retry
            description: Method Not Allowed
          '406': # no retry
            description: Not Acceptable
          '408': # retry
            description: Request Timeout
          '413': # no retry
            description: Payload Too Large
          '429': # retry
            description: Too Many Requests
          '500': # retry
            description: Internal Server Error
          '502': # retry
            description: Bad Gateway
          '503': # retry
            description: Service Unavailable
          '504': # retry
            description: Gateway Timeout
          '505': # no retry
            description: HTTP Version Not Supported
```

5.1.38 MHHS-DIN-862

Description of change

The eventcode on REP-901 need correcting to [DUoSEmbeddedLDSOAggInvData] & [DUoSSupplierAggInvData] in Swagger and ECS Reports to align with naming standard for all ECS reports, as well as ensure that Swagger aligns with the ECS reports catalogue, see screenshots below:

Before

```
REP-901-Payload:
description: LDSO E-Bill - Distribution Invoice
type: object
required:
  - CommonBlock
  - CustomBlock
additionalProperties:
  false
properties:
  CommonBlock:
    description: MHHS Common Block for REP901
    type: object
    additionalProperties:
      false
    properties:
      S0:
        description: Sender Header block
        type: object
        additionalProperties:
          false
        properties:
          interfaceID:
            type: string
            enum: ['REP-901']
          schemaVersion:
            description: Version of the message schema used in the exchange
            type: string
            example: '007'
            enum:
              - '007'
          eventCode:
            type: string
            enum:
              - '[DUoSSupplierInvData]'
```

After

```
REP-901-Payload:
description: LDSO E-Bill - Distribution Invoice
type: object
required:
  - CommonBlock
  - CustomBlock
additionalProperties:
  false
properties:
  CommonBlock:
    description: MHHS Common Block for REP901
    type: object
    additionalProperties:
      false
    properties:
      S0:
        description: Sender Header block
        type: object
        additionalProperties:
          false
        properties:
          interfaceID:
            type: string
            enum: ['REP-901']
          schemaVersion:
            description: Version of the message schema used in the exchange
            type: string
            example: '007'
            enum:
              - '007'
          eventCode:
            type: string
            enum:
              - '[DUoSEmbeddedLDSOAggInvData]'
```

5.1.39 MHHS-DIN-864

Description of change

CR024 - Update of two data items in DES-138 and Swagger below:

- Manufacturer Code should be Manufacturers Make and Type
- CSS Registration Request Id should be CSS Registration Id.

Please refer to screenshots below for change:

Before:

```
DI-048-Meter-Manufacturer:  
  description : The Meter Manufacturer Code  
  type : string  
  nullable: true  
  maxLength : 60  
  example : SIEMENS ZMD120AR44.0200.C4
```

```
DI-849-CSS-Registration-Request-ID:  
  description: CSS Registration Request ID  
  type: string  
  maxLength: 36
```

After:

```
DI-048-Manufacturers-Make-And-Type: # DIN-864  
  description : The Meter Manufacturer Make and Type  
  type : string  
  nullable: true  
  maxLength : 60  
  example : 'SIEMENS ZMD120AR44.0200.C4'
```

```
DI-849-CSS-Registration-ID: # DIN-864  
  description: CSS Registration ID  
  type: string  
  maxLength: 36
```

5.1.40 MHHS-DIN-866

Description of change

DI-059 Contains "MAIN" in DI-059-Meter-Type enum, should be MAIN_ to align with ISD, Swagger has been updated to align with this, please see screenshots below:

Before:

```
DI-059-Meter-Type:
description : The type of meter, in relation to its capabilities. E.g. AMR.S1, S2, S2ADE
type : string
maxLength : 5
example : S2CDE

enum:
#
- val # Description
- CHECK # Check
- H # Half Hourly
- K # Key
- LAG_ # Lag
- LEAD_ # Lead
- MAIN # Main
- N # Non-Half Hourly
- NCAMR # Non-remotely Configurable Automated Meter Reading
- NSS # A meter that meets the definition of an ADM but is not compliant with any version of SMETS
- RCAMR # Remotely Configurable Automated Meter Reading without remote enable/disable capability
- RCAMY # Remotely Configurable Automated Meter Reading with remote enable/disable capability
- S # Smartcard Prepayment
- S1 # A meter that is compliant with the Smart Metering Equipment Technical Specifications 1 (SMETS1)
- S2A # A single element meter that is compliant with SMETS2
- S2AD # A single element meter with one or more ALCS that is compliant with SMETS2
- S2ADE # Single element meter with one or more ALCS and Boost Function that is compliant with SMETS2
- S2B # twin element meter that is compliant with SMETS2
- S2BD # A twin element meter with one or more ALCS that is compliant with SMETS2
- S2BDE # A twin element meter with one or more ALCS and Boost Function that is compliant with SMETS2
- S2C # A polyphase meter that is compliant with SMETS2
- S2CD # A polyphase meter with one or more ALCS that is compliant with SMETS2
- S2CDE # A polyphase meter with one or more ALCS and Boost Function that is compliant with SMETS2
- SPECL # Special
- T # Token
- 2ADF # Single Element with ALCS and Auxiliary Proportional Controller (APC) that is compliant with SMETS2
- 2ADEF # Single Element with ALCS, Boost Function and APC that is compliant with SMETS2
- 2AEF # Single Element with Boost Function and APC that is compliant with SMETS2
- 2AF # Single Element with APC that is compliant with SMETS2
- 2BF # Twin Element with APC that is compliant with SMETS2
- 2BDF # Twin Element with ALCS and APC that is compliant with SMETS2
- 2BDEF # Twin Element with ALCS, Boost Function and APC that is compliant with SMETS2
- 2BEF # Twin Element with Boost Function and APC that is compliant with SMETS2
- 2CDEF # Polyphase with ALCS, Boost Function and APC that is compliant with SMETS2
- 2CF # Polyphase with APC that is compliant with SMETS2
- 2CDF # Polyphase with ALCS and APC that is compliant with SMETS2
- 2CEF # Polyphase with Boost Function and APC that is compliant with SMETS2
```

After:

```
DI-059-Meter-Type:
description : The type of meter, in relation to its capabilities. E.g. AMR.S1, S2, S2ADE
type : string
maxLength : 5
example : 'S2CDE'

enum:
#
- val # Description
- CHECK # Check
- H # Half Hourly
- K # Key
- LAG_ # Lag
- LEAD_ # Lead
- MAIN_ # Main # DIN-866
- N # Non-Half Hourly
- NCAMR # Non-remotely Configurable Automated Meter Reading
- NSS # A meter that meets the definition of an ADM but is not compliant with any version of SMETS
- RCAMR # Remotely Configurable Automated Meter Reading without remote enable/disable capability
- RCAMY # Remotely Configurable Automated Meter Reading with remote enable/disable capability
- S # Smartcard Prepayment
- S1 # A meter that is compliant with the Smart Metering Equipment Technical Specifications 1 (SMETS1)
- S2A # A single element meter that is compliant with SMETS2
- S2AD # A single element meter with one or more ALCS that is compliant with SMETS2
- S2ADE # Single element meter with one or more ALCS and Boost Function that is compliant with SMETS2
- S2B # twin element meter that is compliant with SMETS2
- S2BD # A twin element meter with one or more ALCS that is compliant with SMETS2
- S2BDE # A twin element meter with one or more ALCS and Boost Function that is compliant with SMETS2
- S2C # A polyphase meter that is compliant with SMETS2
- S2CD # A polyphase meter with one or more ALCS that is compliant with SMETS2
- S2CDE # A polyphase meter with one or more ALCS and Boost Function that is compliant with SMETS2
- SPECL # Special
- T # Token
- 2ADF # Single Element with ALCS and Auxiliary Proportional Controller (APC) that is compliant with SMETS2
- 2ADEF # Single Element with ALCS, Boost Function and APC that is compliant with SMETS2
- 2AEF # Single Element with Boost Function and APC that is compliant with SMETS2
- 2AF # Single Element with APC that is compliant with SMETS2
- 2BF # Twin Element with APC that is compliant with SMETS2
- 2BDF # Twin Element with ALCS and APC that is compliant with SMETS2
- 2BDEF # Twin Element with ALCS, Boost Function and APC that is compliant with SMETS2
- 2BEF # Twin Element with Boost Function and APC that is compliant with SMETS2
- 2CDEF # Polyphase with ALCS, Boost Function and APC that is compliant with SMETS2
- 2CF # Polyphase with APC that is compliant with SMETS2
- 2CDF # Polyphase with ALCS and APC that is compliant with SMETS2
- 2CEF # Polyphase with Boost Function and APC that is compliant with SMETS2
```

5.1.41 MHHS-DIN-870

Description of change

IMS-SendMTD variant for IF-035 does not contain properties B070, B071 and B019 to align with DES-138 - which identifies this variant as a copy of the variants DSAppAccepted and MSAppAccepted. Swagger has been updated to align as per screen shots below:

Before:

```
CustomBlock:
  description: IF035 Custom data block
  type: object
  additionalProperties:
    false
  required:
    - B007
    - B012
  properties:
    B007:
      # Service Provider Appointment Outcome
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B007'
    B012:
      # Service Provider Appointment Requesting Supplier
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B012'

    B013:
      # CSS Switch ID
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.6#/components/schemas/B013'
```

After:

```
CustomBlock:
  description: IF035 Custom data block
  type: object
  additionalProperties:
    false
  required:
    - B007
    - B012
  properties:
    B007:
      # Service Provider Appointment Outcome
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B007'
    B012:
      # Service Provider Appointment Requesting Supplier
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B012'
    B013:
      # CSS Switch ID
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B013'
    B070: # DIN-870
      # CSS Switch ID
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B070'
    B071: # DIN-870
      # CSS Switch ID
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B071'
    B019: # DIN-870
      # CSS Switch ID
      $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B019'
```

5.1.42 MHHS-DIN-871

Description of change

Updates to E2E001 design and Swagger to support changes for Replay version support that included changes made to sections 4,9 and 8.5.2 in the E2E001 design, removing section 5.,5, and adding message version in the Swagger, please see screenshots below:

After

4.9 Replay Events

Where Market Participants have lost any messages (following successful delivery previously), or to support Market Participants to recover from a system failure (alongside several other scenarios), the Replay Events functionality will enable Market Participants to retrieve messages from the DIP archive.

The latest version of the full Open API definition can be found here:

<https://app.swaggerhub.com/apis/MHHS/PROGRAMME>.

Two different APIs are available: Replay API and Requeue API. The Replay API will return the messages directly from the API call, whilst the Requeue API will place the messages on the queue to be pulled by the corresponding webhook.

The furthest a query can retrieve data is dependent upon the retention time set with each message channel (the default retention is 2 years).

The Participant can make a single request to return an array of events (50,000). The message will contain data i.e., timestamps as per the original submission.

The original Recipient DIP Id needs to be specified as the DIP will need to ascertain which messages the participant is able to replay. This Replay Events functionality will also be available via the DIP Portal to manually request a replay.

4.9.1 Query Parameters

The Replay Events query parameters are:

- Message Channel
- Message Recipient DIP ID

Message request object contains::

- Event Code (optional)
- MPAN
- Transaction IDs – array of message Transaction Ids to replay, or
- Date/time from – transaction time from which the first message needs to be replayed.
- Date/time to (optional) – transaction time message to be replayed
- Version – message version (optional)

The replayed message will have the same structure as the message received via the webhook, hence in addition to the message body and Sender message blocks (P0, M0) (sender) and message will also have the added the amended D0 block.

There will be two methods by which the Event Replay facility can be initiated:

- Through the UI interface on the DIP
- Through an API Call

As well as being delivered via a separate API, the event replay will deliver the message under a new transaction wrapper with a Transaction ID and Correlation ID (with a reply prefix) so that the event/message are identified as a replayed, and hence downstream processes are not triggered. The initial message transaction wrapper will also be sent. Only messages the Participant is entitled to view will be sent.

Participants need to be aware where messages are replayed from archive that message payloads are replayed in the schema version that they were originally submitted in, i.e. the messages are not "uplifted" to the current live format when replayed. Hence, participants requiring full replay facilities will need message gateways and software that have multi-version support for message ingress during replay. Also, please see section 8.5 below on version control.]

8.5.2 Message Channel Versioning

Each separate message channel has its own version number and is defined by the schemaVersion item in the payload/CommonBlock/S0, for example:

```
[
  {
    "payload": {
      "CommonBlock": {
        "S0": {
          "interfaceId": "IF-001",
          "schemaVersion": "004",
          "eventCode": "[InitialRegistration]"
        }
      }
    }
  },
]
```

[Messages will only be submitted in a single version of the message. If a message channel requires an upgrade then this will happen via a controlled outage where all message ingress/egress is quiesced, the channel is then modified and then the API will only accept messages in the new format. Subsequently, if messages are submitted that align to the previous schema version then they will be rejected with a schema validation error.](#)

[At present Swagger only supports a single version for each interface. When the DIP moves into an operational phase then the swagger definitions will meet the requirements to support single version on message ingress into the DIP, and multiversion on message egress from the DIP.](#)

[Please see section 5.5 on message replay.](#)

```
MessageRequest:
  type: object
  required:
    - MPAN
    - recipientID

  properties:
    datetimeFrom:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataTypes/1.7#/components/schemas/DT-003-DateTime'
    datetimeTo:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataTypes/1.7#/components/schemas/DT-003N-DateTime'
    eventCode:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataTypes/1.7#/components/schemas/DT-004N-EventCode'
    MPAN:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataTypes/1.7#/components/schemas/DT-002N-MPAN'
    transactionIDs:
      type: array
      minItems: 1
      maxItems: 100
      items:
        $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataTypes/1.7#/components/schemas/DT-014-DIPTransactionID'
    version:
      $ref: 'https://api.swaggerhub.com/domains/MHHSPPROGRAMME/DataCatalogue/1.7#/components/schemas/DI-992-Schema-Version'
```

5.1.43 MHHS-DIN-886

Description of change

Updates to add B905 existing meter array block to all variant event codes in IF-006, please see screenshots for example below for before and after changes.

Before

```
1263 IF-006-MeterRemoval:
1264   description: IF006 Message for Meter Removal
1265   type: object
1266   additionalProperties:
1267     false
1268   required:
1269     - CommonBlock
1270     - CustomBlock
1271   properties:
1272     CommonBlock:
1310
1311     CustomBlock:
1312       description: IF005 Custom data block for Meter Removal
1313       type: object
1314       additionalProperties:
1315         false
1316       required:
1317         - B039
1318       properties:
1319         B039:
1320           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B039'
1321
```

After

```
1262
1263 IF-006-MeterRemoval:
1264   description: IF006 Message for Meter Removal
1265   type: object
1266   additionalProperties:
1267     false
1268   required:
1269     - CommonBlock
1270     - CustomBlock
1271   properties:
1272     CommonBlock:
1310
1311     CustomBlock:
1312       description: IF005 Custom data block for Meter Removal
1313       type: object
1314       additionalProperties:
1315         false
1316       required:
1317         - B039
1318       properties:
1319         B039:
1320           $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B039'
1321
1322     # DIN-886
1323     B905List:
1324       type: array
1325       items:
1326         #074/075
1327         $ref: 'https://api.swaggerhub.com/domains/MHHSPROGRAMME/RealCommonBlocks/1.7#/components/schemas/B905'
1328
```

5.1.44 MHHS-DIN-888

Description of change

Property "type: object" missing from IF-024 variants in Swagger. This has been added to all variants where there is missing, see example from screenshot below:

Before

```
IF-024-Payload:  
description: IF-024 Supplier Advisory Notification to Data Service  
oneOf:
```

After

This has been added to the 7 event code variants.

```
IF-024-Payload:  
description: IF-024 Supplier Advisory Notification to Data Service  
type: object
```

6 Issues/Limitations

This section describes any known limitations and obstacles to the release and fixes implemented.

Certain artefacts cannot be change marked. Reference will be made to documents which identify where these changes exist within the artefacts. Artefact documents in PDF form will be issued with tracked changes on to highlight where the changes are in the document.

Certain artefacts do not include a version/change history record, change history section have been added in some cases and changes are tagged using comments to provide a reference of DIN changes made to the artefact. Within Excel while all changes are marked, not every cell is tagged with the DIN reference as it was not possible to tag groups of cells with a DIN ref.

7 Past Releases

Details of previous release please refer to the relevant release note for details:

Version Number*	Release Date	Release type
5.0	21/02/2023	Baseline
5.1	14/06/2023	Interim Release 1
5.2	05/07/2023	Interim Release 2
5.3	02/08/2023	Interim Release 3
5.4	30/08/2023	Interim Release 4
5.5	04/10/2023	Interim Release 5
5.2.1	11/10/2023	Interim Release 2.1
5.5.1	17/10/2023	Interim Release 5.1
5.6	01/11/2023	Interim Release 6
5.2.2	11/11/2023	Interim Release 2.2
5.2.3	29/11/2023	Interim Release 2.3
5.5.2	13/12/2023	Interim Release 5.2
5.5.3	17/01/2024	Interim Release 5.3

* Various version numbering occurs on different documents for each release for details see previous release notes.