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Foreword

This Data Interchange Specification (DIS) serves as a basis to establish a common set of messages that are to be transmitted in order to support the business and operational processes surrounding the delivery, retrieval and return of parcels via locker stations.

Inter-operable Platform is expected to provide the set of APIs base on the datasets set out in this DIS for the purpose of interfacing with Users (electronic market places, merchants, e-retailers, brand owner, logistics service providers etc.), and parcel locker operators and collection point operators.

In preparing this DIS, reference was made to the following publications:

(1) IEFT HTTP/1.0 Specification (RFC 7230 to 7235) – Hypertext Transfer Protocol – HTTP/1.0 Specifications

(2) IDA RSF version 2.0 – September 2015 – Retail Service Framework Technical Guidelines for eCommerce Order Fulfilment

Acknowledgement is made for the use of the above publications.

Attention is drawn to the possibility that some of the elements of this DIS may be the subject of patent rights. IMDA shall not be held responsible for identifying any or all of such patent rights.

Data interchange for last mile delivery using parcel locker network.

1 Scope

This Data Interchange Specification (DIS) defines and describes the datasets required and protocol for communication between the market place, retailers, sellers, logistic service providers (LSP) and parcel locker or collection point operators. Having standardised data exchange formats will facilitate efficiency in processes relating goods delivery and enable interoperability among participating partners.

These technical guidelines are based on the premise that in order to send, retrieve, return and track parcels on a shared platform, a common communication and messaging protocol must be observed.

This DIS requires prior working knowledge of the following areas necessary for effective implementation:

- API Programming,
- REST or JSON,
- HTTP Protocol,
- EDI.

2 Normative references

The following documents are referenced within this DIS and are required for the implementation of this standard. For undated references, use the latest edition of the referenced document.

ISO 3166-1	Codes for the representation of names of countries and their subdivisions – Part 1: Country codes.
ISO 6709:2008	Standard representation of geographic point location by coordinates

3 Definitions, acronyms and abbreviations

For the purpose of this DIS, the following definitions, acronyms and abbreviations apply:

3.1 Definitions

3.1.1 Access locker

The process by which the locker door is opened in order to enact a change in state within the locker.

3.1.2 Book locker

The process by which a locker box is reserved for a set period of time for a specific purpose.

3.1.3 Collect

The process by which a parcel is retrieved from locker or collection point.

3.1.4 Confirmed booking

A state whereby a locker box is reserved for the requestor, and is therefore not available for booking.

3.1.5 Customer

The person(s) or entity who: initiates a purchase; receives the parcel at the end of the delivery process; and returns the parcel.

3.1.6 Delivery

The process of transporting goods from a source location to a predefined destination.

3.1.7 Fulfillment

The process of receiving an order, preparing and executing the order by delivering the item to the end consumer.

3.1.9 Lock locker

The process by which a locker door is closed and secured.

3.1.10 Locker box

Each lockable compartment of a locker station.

3.1.11 Locker operator

The company that provides parcel locker services.

3.1.12 Locker station

A single site where a suite of locker boxes are located, from which parcels can be delivered to and collected by end-users on a self-service basis.

3.1.13 Locker box status

Availability of a locker boxes at a particular point in time.

3.1.14 Logistics service provider (LSP)

A party that provides services including but not limited to fulfillment, pickup and delivery of parcels to the end consumer.

3.1.15 Market place

An online platform that allows buyers and sellers to interact in order to facilitate an exchange goods and services.

3.1.16 Merchant

A business or individual who provide goods and services.

3.1.17 Order

A purchase of a physical item sold by a merchant made by end consumer.

3.1.18 Parcel status

An indication of the current status of a parcel while it is in transit, or prior to collection by the end consumer.

3.1.19 Proof-of-delivery (POD)

A notification triggered by the end consumer in acknowledgement of receipt of the a parcel in good order and condition.

3.1.20 Query locker

The process by which a request is made for information on a locker pertaining to its size, location, availability or any other characteristics provided by the locker operator.

3.1.21 Query parcel status

The process by which a request is made for current information on a parcel's status.

3.1.22 Receive

The process by which a party takes possession of the parcel.

3.1.23 Recipient

The person or the legal entity who receives a parcel during any part of the order fulfillment process.

3.1.24 Release locker

The process by which a prior reservation on a locker is removed in order to make the locker box available for booking.

3.1.25 Request to return

The process by which the end consumer makes a request to the seller to take back the parcel after the order has been fulfilled.

3.1.26 Send

The process by which delivery of the parcel to the location designated by end consumer is initiated and executed.

3.1.27 Send notification

An instruction to generate a message and disseminate it to predefined relevant parties upon a change of parcel status.

3.1.28 Send status

An instruction to generate a message and disseminate it to predefined relevant parties on the current state of a locker box.

3.1.31 Sender

The original owner of parcel that is to be sent, the party accountable for its contents.

3.2 Abbreviations

API	Application Programming Interface
EDI	Electronic Data Interchange
GLN	Global Location Number
GTIN	Global Trade Item Number
Gzip	GNU Zip
HTTP	HyperText Transfer Protocol
HTTPS	HyperText Transfer Protocol Secure
ID	Identifier
JSON	JavaScript Object Notation
LSP	Logistic Service Provider
PIN	Personal Identification Number
POD	Proof Of Delivery
REST	REpresentation State Transfer
SI	Système International d'Unités
SSCC	Serial Shipping Container Code
SMS	Short Messaging Service
XML	eXtensible Markup Language

4 Delivery process flow

4.1 Datasets supporting the process flow

In order to support the basic operations for last mile delivery order fulfillment using parcel lockers, which are: purchase with locker box delivery, delivery of parcel to locker box, return parcel using locker box, the datasets listed in Table 1 below shall be generated and transmitted at the required points in the operational process. For easy reference throughout the rest of this DIS, each dataset has been given a name as shown in Table 1.

No.	Name	Description
1	DS-01	Query locker station declaration
2	DS-02	Query locker station response
3	DS-03	Query locker box availability declaration
4	DS-04	Query locker box availability response
5	DS-05	Reserve locker box declaration
6	DS-06	Reserve locker box response
7	DS-07	Release of locker box declaration
8	DS-08	Release of locker box response
9	DS-09	Access locker box declaration
10	DS-10	Access locker box response
11	DS-11	Lock locker box response
12	DS-12	Send POD Declaration
13	DS-13	Query locker box status declaration
14	DS-14	Query locker box status response
15	DS-15	Notification of Expiry Message declaration

Table 1 – Name and description of datasets used to support all process flows

4.2 Entity relationships

Within the overall landscape of the last mile delivery using parcel lockers, the following entity relationships shall exist:

1. one locker station contains one or more locker boxes;
2. one locker box belongs to one locker station;
3. one locker box contains zero or one parcel;
4. one parcel has one locker box;
5. one parcel has one reservation;
6. one reservation has zero or one parcel; and
7. one access locker contains zero or one reservation.

The diagrams that follow in sections 4.3 and 4.4 illustrate various common scenarios based on the entity relationships defined above. The messages that contain the datasets listed in Table 1 and described in detail from sections 6.1 to 6.15 are placed within the context of the diagram to illustrate under what circumstances and at what point they are transmitted to or from specific parties.

4.3 Landscape overview

Figure 1 shows the normal process in which an order is created and fulfilled. The points at which the various datasets are created and transmitted in the overall process flow are also included.

Note that some events in the process flow trigger various notifications from one party to another. These notifications are **not** the same as the messages described in the dataset boxes next to those events. Receipt of messages containing those datasets may trigger and/or form the basis of the notifications sent. However, there is no pre-defined or prescribed relationship between the datasets and the

notifications sent by the various parties as these will be defined by the organisation's business processes.

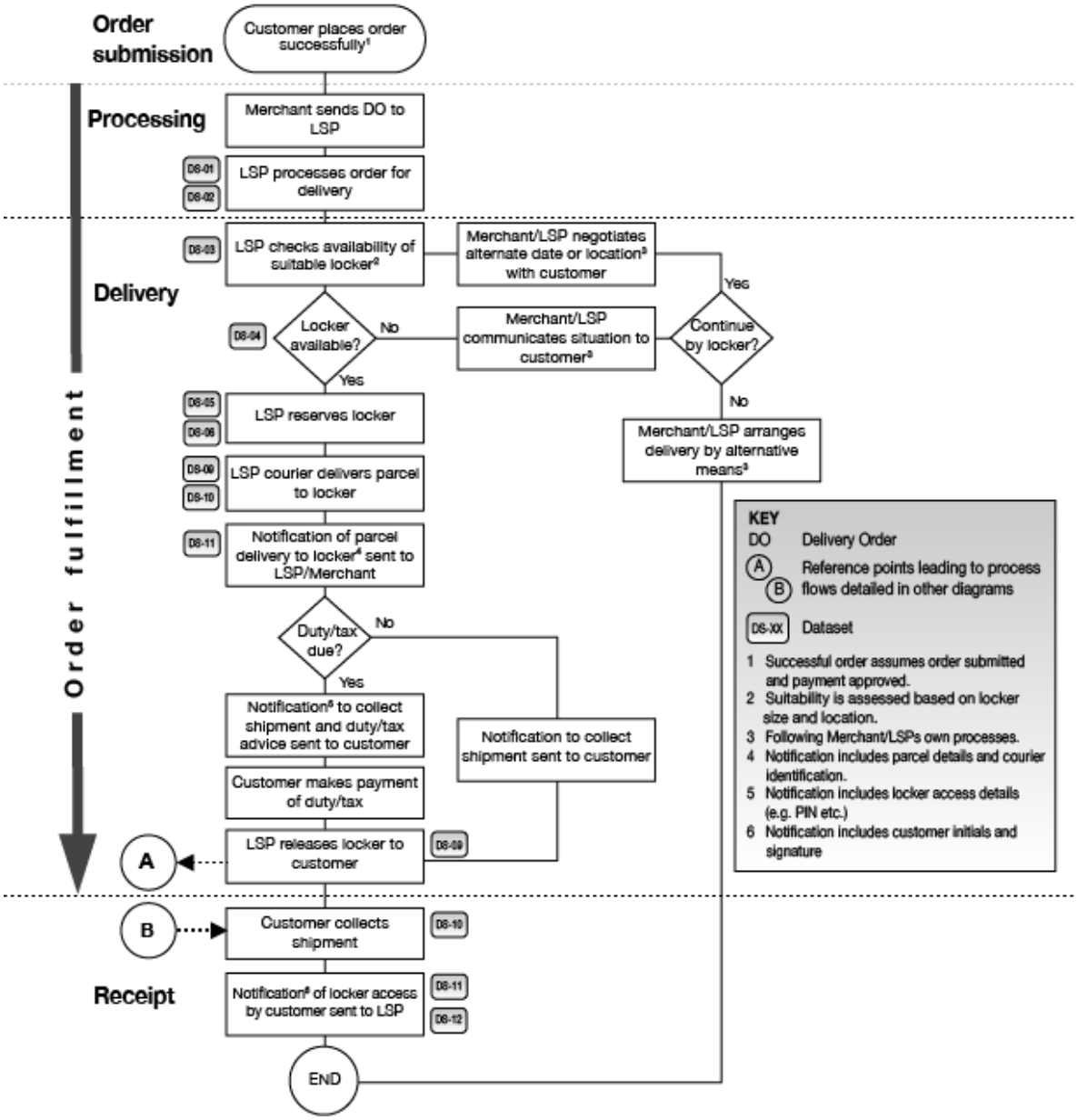

Figure 1 – Overview of a delivery process from order generation to receipt

4.4 Exceptions to process flow

4.4.1 Customer requests for extension to locker box storage duration

Figure 2 below illustrates steps that are additional to the normal process when a customer requests for an extension for the duration which the parcel may remain in the allocated locker box.

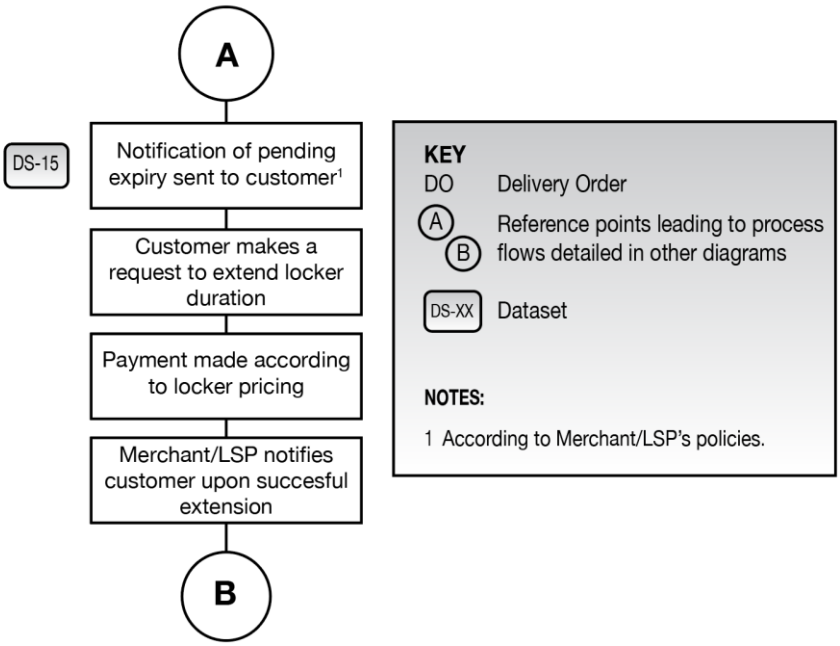

Figure 2 – Customer makes request to extend locker box duration

4.4.2 Customer does not collect shipment

Figure 3 below illustrates steps that occur when a parcel is not collected from the locker beyond its expiry date.

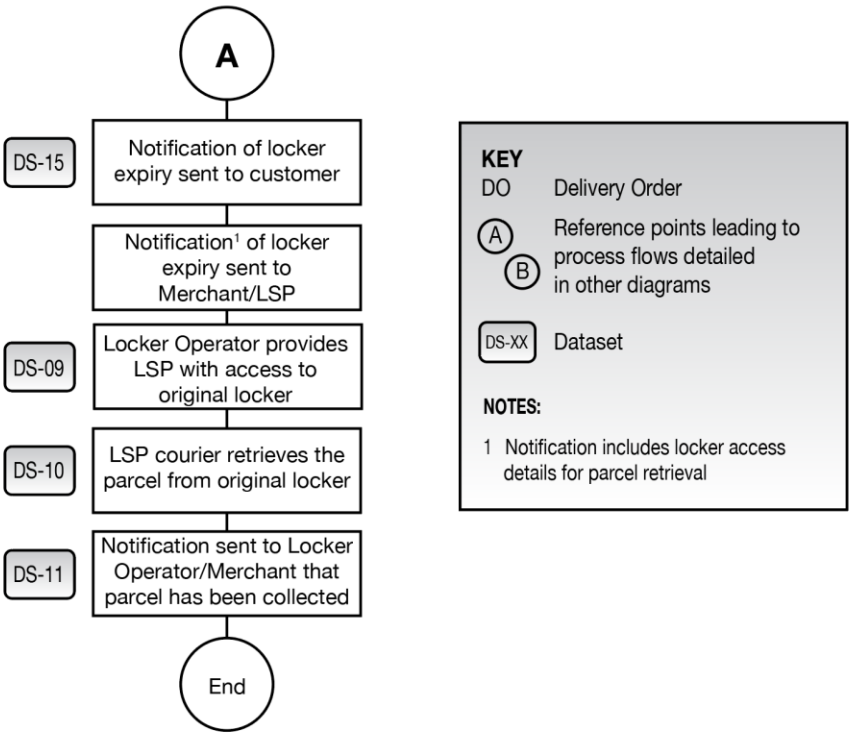

Figure 3 – Customer does not collect shipment

4.4.3 Customer requests for change of locker location

Figure 4 below illustrates steps that occur when the customer requests that the parcel is placed in a different location after the parcel has been delivered to its allocated locker box.

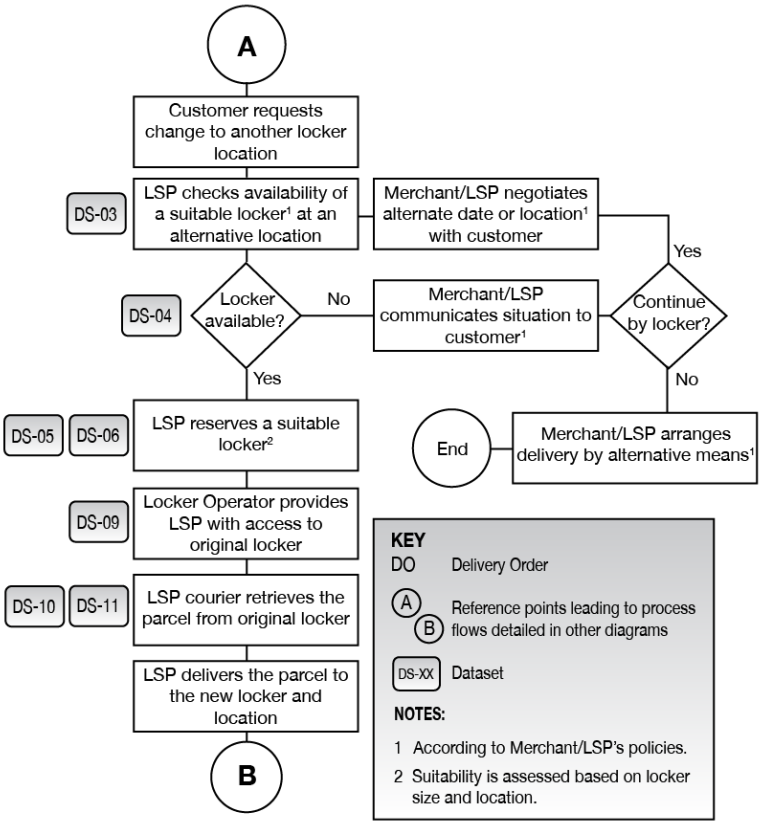

Figure 4 – Customer requests for change of locker location

4.4.4 Customer requests for change to delivery address

Figure 5 below illustrates steps that occur when the customer requests that the parcel is delivered to an address that is not a locker box after the parcel has been delivered to its allocated locker box.

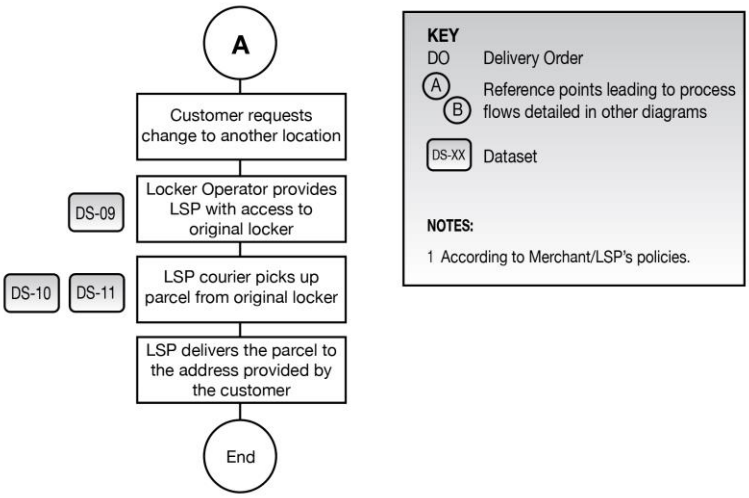

Figure 5 – Customer requests for change to delivery address

4.4.5 Customer requests to return parcel to locker

Figure 6 below illustrates steps that occur when the customer requests that the parcel is returned to a locker after it has already been collected from its allocated locker box.

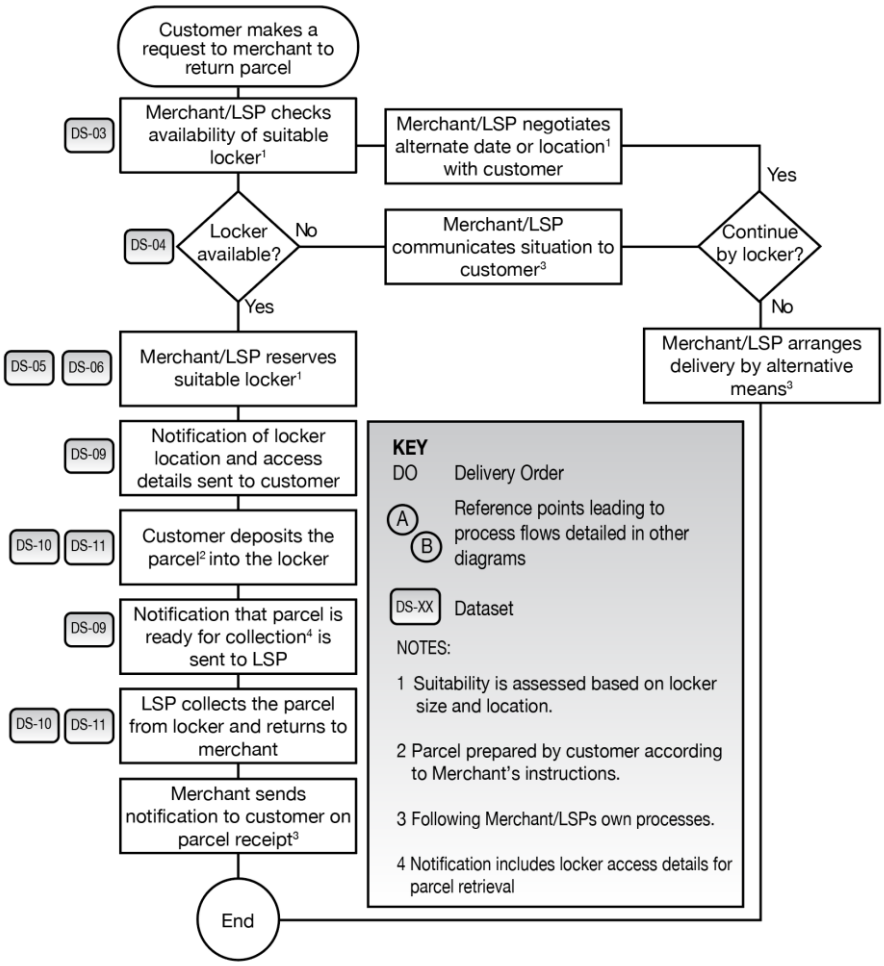

Figure 6 – Customer to return parcel to locker

5 Dataset requirements

5.1 Recommendations for transmission

This following characteristics are recommended for the transmission of the datasets.

1. Message should be sent JSON format, although the datasets are structured such that it is possible to send messages in XML format.
2. Messages should be sent with encryption using HTTPS.

3. It is recommended that the calls be asynchronous.
4. Use of compression formats such as gzip are recommended.

5.2 Dataset description specification conventions

The datasets defined in this document shall constitute Version 1.0 of the standard, and may be subject to periodic review leading to amendments, in which case the version number will be increased to reflect changes to the dataset structure, contents or constrains. The datasets designed for use within a REST architecture and has a JSON-style hierarchical structure with key mandatory and optional data fields. Table 2 below describes the conventions used to define the hierarchical structure and data fields requirement in each of the datasets.

Header field	Description	Remark
S/N	Serial number of the data field and indicates the position of the field within the hierarchical structure of the dataset specification It has a format of 9.9.9.… where: - the first number represents the highest level of information - the subsequent number is a sublevel of the previous level	Structure information
Field Name	Name of the data field used for the delivery of parcel to parcel locker or collection point.	Data field
Type	Describes the field type. N = Numeric AN = Alphanumeric D = Date T = Time	Data field
Len	Field length. Indicates the maximum number of characters allowed for the field.	Data field
M/O	Indicates if the field is mandatory or optional. M = Mandatory O = Optional	Data field
Constrains	Describes the restrictions on the actual contents or format of the contents of that particular field.	
Description	Describes the content of the field. Also indicates if other standards are referred to, or if particular conventions are applied for information to be included in this field.	Structure information

Table 2 - Specification conventions

To clearly illustrate the hierarchical structure in the dataset, the system of colourisation is shown in the Table 3 below is used. Note that for first level fields that are not grouping elements, no colourisation is applied.

Document grouping level colours	Field level colours
First level grouping element (X)	Second level field (X.X)
Second level grouping element (X.X)	Third level field (X.X.X)
Third level grouping element (X.X.X)	Fourth level field (X.X.X.X)

Table 3 - Colour key for document specifications

6 Dataset field definitions

6.1 Query locker station declaration

Table 4 below defines the fields and hierarchical structure of a DS-01 dataset. This dataset contains information relating to a new order which has been processed and initiates the transaction for the delivery process.

DS-01 Query locker station declaration						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	**referenceId**	**AN**	**42**	**M**		**Requestor's reference ID**
2	**requestor**			**M**		
2.1	requestorUId	AN	42	M		Universally unique ID of requestor
3	**lockerZone**			**O**		**Search filter for locker location**
3.1	postalCode	AN	12	O		ZIP or postal code corresponding to the street address
3.2	countryCode	A	2	O		2-letter code identifying the country using ISO 3166-1 alpha-2 standard.
3.3	city	AN	35	O		City
3.4	address	AN	255	O		Address
3.5	operatorId	AN	42	O		Universally unique ID of locker station operator
3.6	lockerStationId	AN	42	O		Universally unique ID of locker station
3.7	longitude	AN	42	O		Global positioning ID using ISO 6709 format
3.8	latitude	AN	42	O		Global positioning ID using ISO 6709 format

Table 4 – Query locker station declaration

6.2 Query locker station response

Table 5 below defines the fields and hierarchical structure of a DS-02 dataset. This dataset contains fields that ascertain the success or failure of the attempt to initiate a new delivery process.

DS-02 Query locker station response						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	**status**	**A**	**35**	**M**	**Success|Failure**	**Response status**
2	**referenceId**	**AN**	**42**	**M**		**Requestor's reference ID**
3	**responseDateTime**			**M**		**Response timestamp**
3.1	responseDate	D	10	M	YYYY-MM-DD	Date
3.2	responseTime	T	8	M	HH:MM:SS	Time
3.3	responseTimeZone	AN	5	M	[+|-]HHMM	Timezone in 4 digits
4	**lockerStationCount**	**N**	**4**	**M**		**Number of returns for point 5**
5	**lockerStation**			**M**	**0...N**	**Locker station directory**
5.1	postalCode	AN	12	M		ZIP or postal code corresponding to the street address
5.2	countryCode	A	2	M		2-letter code identifying the country using ISO 3166-1 alpha-2 standard.
5.3	city	AN	35	M		City
5.4	address	AN	255	M		Address
5.5	operatorId	AN	42	M		Universally unique ID of locker station operator
5.6	lockerStationId	AN	42	M		Universally unique ID of locker station

Table 5 – Query locker station response

6.3 Query locker box availability declaration

Table 6 below defines the fields and hierarchical structure of a DS-03 dataset. The dataset is used to request for a list of available locker boxes within the particular selected locker station.

DS-03 Query locker box availability declaration						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	**referenceId**	**AN**	**42**	**M**		**Requestor's reference ID**
2	**requestor**			**M**		
2.1	requestorUId	AN	42	M		Universally unique ID of requestor
3	**lockerZone**			**M**	**1…N At least one sub element should be provided.**	**Search filter for locker location**
3.1	postalCode	AN	12	O		ZIP or postal code corresponding to the street address
3.2	countryCode	A	2	O		2-letter code identifying the country using ISO 3166-1 alpha-2 standard.
3.3	city	AN	35	O		City
3.4	address	AN	255	O		Address
3.5	operatorId	AN	42	O		Universally unique ID of locker station operator
3.6	lockerStationId	AN	42	O		Universally unique ID of locker station

Table 6 – Query locker box availability declaration

6.4 Query locker box availability response

Table 7 below defines the fields and hierarchical structure of a DS-04 dataset. This dataset returns a list of available locker boxes, their dimensions and their unique identifier within the locker station.

DS-04 Query locker box availability response						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	**status**	**A**	**35**	**M**	**Success|Failure**	**Response status**
2	**referenceId**	**AN**	**42**	**M**		**Requestor's reference ID**
3	**responseDateTime**			**M**		**Response timestamp**
3.1	responseDate	D	10	M	YYYY-MM-DD	Response date
3.2	responseTime	T	8	M	HH:MM:SS	Response time
3.3	responseTimeZone	AN	5	M	[+|-]HHMM	Timezone in 4 digits
4	**lockerStationCount**	**N**	**4**	**M**		**Number of returns for point 5**
5	**lockerStation**			**M**	**0...N**	**Locker station directory**
5.1	postalCode	AN	12	M		ZIP or postal code corresponding to the street address
5.2	countryCode	A	2	M		2-letter code identifying the country using ISO 3166-1 alpha-2 standard.
5.3	city	AN	35	M		City
5.4	address	AN	255	M		Address
5.4	operatorId	AN	42	M		Universally unique ID of locker station operator
5.5	lockerStationId	AN	42	M		Universally unique ID of locker station
5.6	lockerBoxCount	N	4	M		Number of returns for point 5.7
5.7	**lockerBoxInfo**				**0...N**	

5.7.1	category	AN	3	M		Locker station operator assigned identifying number for locker boxes with similar attributes
5.7.2	quantity	N	3	M		Number of locker boxes in the category
5.7.3	length	N	6	M		Physical length of the locker box in millimetres based on SI units
5.7.4	width	N	6	M		Physical width of the locker box in millimetres based on SI units
5.7.5	height	N	6	M		Physical height of the locker box in millimetres based on SI units
5.7.6	weight	N	10	M		Maximum loading capacity of the locker box in gram based on SI units.
5.7.7	currency	A	3	O		3-letter code identifying the currency using ISO 4217 standard.
5.7.8	price	N	11	O		Cost of reserving a locker box including taxes and any additional cost incurred

Table 7 – Query locker box availability response

6.5 Reserve locker box declaration

Table 8 below defines the fields and hierarchical structure of a DS-05 dataset. This dataset transmits the fields necessary for an LSP to reserve a specific locker box at a particular locker station.

DS-05 Reserve locker box response						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	**referenceId**	**AN**	**42**	**M**		**Requestor's reference ID**
2	**requestor**			**M**		
2.1	requestorUId	AN	42	M		Universally unique ID of requestor
3	**lockerStation**			**M**		**Reservation parameters**
3.1	lockerStationId	AN	42	M		Universally unique ID of locker station
4	**lockerBoxInfo**			**M**		
4.1	category	AN	3	M		Locker station operator assigned identifying number for locker boxes with similar attributes
5	**parcelInfo**			**O**		
5.1	customerMobileNo	N	12	O		Customer mobile number
5.2	customerEmailAddr ess	AN	100	O		Customer e-mail address
5.3	trackingNo	AN	42	O		Tracking ID
5.4	contentScannedSta tus	AN	35	O		Scan status
5.5	contentDescription	AN	512	O		Content
5.6	currency	A	3	O		3-letter code identifying currency using ISO4217 standard
5.7	value	N		O		Monetary value of parcel

Table 8 – Reserve locker box declaration

6.6 Reserve locker box response

Table 9 below defines the fields and hierarchical structure of a DS-06 dataset. This dataset returns the result of the locker box reservation request.

DS-06 Reserve locker box response						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	**status**	**AN**	**35**	**M**	**Success|Failure**	**Response status**
2	**referenceId**	**AN**	**42**	**M**		**Requestor's reference ID**
3	**responseDateTime**			**M**		**Response timestamp**
3.1	responseDate	D	10	M	YYYY-MM-DD	Response date
3.2	responseTime	T	8	M	HH:MM:SS	Response time
3.3	responseTimeZone	AN	5	M	[+|-]HHMM	Timezone in 4 digits
4	**lockerStation**			**M**		**Locker station directory**
4.1	postalCode	AN	12	M		ZIP or postal code corresponding to the street address
4.2	countryCode	A	2	M		2-letter code identifying the country using ISO 3166-1 alpha-2 standard.
4.3	city	AN	35	M		City
4.4	address	AN	255	M		Address
4.5	operatorId	AN	42	M		Universally unique ID of locker station operator
4.6	lockerStationId	AN	42	M		Universally unique ID of locker station
5	**transactionId**	**N**	**42**	**M**		**Universally unique ID generated upon receipt of reservation**
6	**reservationDateTime**			**M**		**Default reservation duration lasts for 48 hours**
6.1	reservationStartDate	D	10	M	YYYY-MM-DD	Reservation start date
6.2	reservationStartTime	T	8	M	HH:MM:SS	Reservation start time
6.3	reservationEndDate	D	10	M	YYYY-MM-DD	Reservation end date
6.4	reservationEndTime	T	8	M	HH:MM:SS	Reservation end time
6.5	reservationTimeZone	AN	5	M	[+|-]HHMM	Timezone in 4 digits

Table 9 – Reserve locker box response

6.7 Release of locker box declaration

Table 10 below defines the fields and hierarchical structure of a DS-07 dataset. This dataset does not appear in the flow chart diagrams shown in section 4.3 and 4.4. It is used only in a situation when a reservation has been made on a locker box but a cancellation is made prior to the delivery of the parcel. The transmission of this dataset informs the locker station that an expected delivery will not be occurring and returns the status of the locker box to being available.

DS-07 Release of locker box declaration						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	**referenceId**	**AN**	**42**	**M**		**Requestor's reference ID**
2	**requestor**			**M**		
2.1	requestorUId	AN	42	M		Universally unique ID of requestor
3	**transactionId**	**N**	**42**	**M**		**Universally unique ID generated upon receipt of reservation**

DS-07 Release of locker box declaration						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
4	**comment**	**AN**	**255**	**O**		**Reason for release of locker box**

Table 10 – Release of locker box declaration

6.8 Release of locker box response

Table 11 below defines the fields and hierarchical structure of a DS-08 dataset. This dataset does not appear in the flow chart diagrams shown in section 4.3 and 4.4. It confirms the receipt of a DS-07 message.

DS-08 Release of locker box response						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	status	AN	35	M	Success|Failure	Response status
2	errorMessage	AN	255	O		Response Message
3	referenceId	AN	42	M		Requestor's reference ID
4	**responseDateTime**			**M**		**Response timestamp**
4.1	responseDate	D	10	M	YYYY-MM-DD	Response date
4.2	responseTime	T	8	M	HH:MM:SS	Response time
4.3	responseTimeZone	AN	5	M	[+|-]HHMM	Timezone in 4 digits
5	**transactionId**	**AN**	**42**	**M**		**Universally unique ID generated upon receipt of reservation**

Table 11 – Release of locker box response

6.9 Access locker box declaration

Table 12 below defines the fields and hierarchical structure of a DS-09 dataset. This dataset is generated upon an attempt to open a locker box in order deliver a parcel in the case of an LSP, or return a parcel in the case of the customer.

DS-09 Access locker box declaration						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	accessType	AN	64	M		Deposit or pickup
2	transactionId	AN	42	M		Unique identifier of any locker transaction
3	parcelId	AN	128	O		Unique identifier of a parcel
4	proofOfReservation	AN	128	O		Reference number containing the proof of reservation
5	lockerStationId	AN	25	M		Unique identifier of a locker station location
6	lockerOperator	AN	128	M		Unique identifier of a locker operator
7	lockerBoxId	AN	64	M		Unique identifier of a locker box*

Table 12 – Access locker box declaration

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6.10 Access locker box response

Table 13 below defines the fields and hierarchical structure of a DS-10 dataset. In this dataset, it is assumed that value of endState (refer to field 8 in **Table 12 – Access locker box declaration)** in the DS-09 declaration is either “unlocked” or “open”.

DS-10 Access locker box response						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	status	AN	35	M	Success|Failure	Response status
2	transactionId	AN	42	M		Unique identifier of any locker transaction
3	responseDateTime	D		M		Response timestamp
3.1	responseDate	D	10	M	YYYY-MM-DD	Date
3.2	responseTime	T	8	M	HH:MM:SS	Time
3.3	responseTimeZone	AN	5		[+|-]HHMM	Timezone in 4 digits
3.4	endState	AN	64	M		Location information group where the expected outcomes can be “locked”, “unlocked” or “open”

Table 13 – Access locker box response

6.11 Lock locker box response

Table 14 below defines the fields and hierarchical structure of a DS-11 dataset. This dataset is generated when the act of locking the locker is registered by the system and provides a status on the success or failure of the action as well as a time stamp for the action.

DS-11 Lock locker box response						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	status	AN	35	M	Success|Failure	Lock locker status Success or Failure
2	responseDateTime	D		M		Response timestamp
2.1	responseDate	D	10	M	YYYY-MM-DD	Date
2.2	responseTime	T	8	M	HH:MM:SS	Time
2.3	responseTimeZone	AN	5		[+|-]HHMM	Timezone in 4 digits

Table 14 – Lock locker box response

6.12 Send POD declaration

Table 15 below defines the fields and hierarchical structure of a DS-12 dataset. This dataset contains information collected at the point of parcel receipt by the end user to serve as proof-of-delivery.

DS-12 Send POD declaration						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	parcelId	AN	128	O		Unique identifier of a parcel
2	lockerStationId	AN	25	M		Unique identifier of a locker station location
5	lockerOperator	AN	128	M		Unique identifier of a locker operator
6	lockerBoxId	AN	64	M		Unique identifier of a locker box
7	podStatus	AN	64	M		POD status using timestamp.
8	podContent	AN	255	M		Contents of the POD

Table 15 – Send POD declaration

6.13 Query locker box status declaration

Table 16 below defines the fields and hierarchical structure of a DS-13 dataset. This dataset is transmitted when there is a request for the current status of a specific locker within a specific locker station. It is not shown in any of the process flow diagrams shown in sections 4.3 and 4.4 as it is used on an ad hoc basis.

DS-13 Query locker box status declaration						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	lockerStationId	AN	42	M		Reference to locker station
2	lockerBoxId	AN	64	M		Reference to locker box

Table 16 – Query locker box status declaration

6.14 Query locker box status response

Table 17 below defines the fields and hierarchical structure of a DS-14 dataset. This dataset includes fields that describe the current status, along with additional information such as expiry date and time for a specific locker within a specific locker station. This dataset is sent on an ad hoc basis.

DS-014 Query locker box status response						
S/N	Field Name	Type	Len	M/O	Constraints	Description
1	lockerStatus	AN	35	M		Status of locker box. Minimum set of statuses shall include: In Use, Expired, Expiry Extended, Not In Use, Not in Operation.
2	**expiryDateTime**					

2.1	expiryDate	D	10	M	YYYY-MM-DD	Expiry date
2.2	expiryTime	T	8	M	HH:MM:SS	Expiry time
2.3	expiryTimeZone	AN	5		[+|-]HHMM	Timezone in 4 digits
3	responseDateTime					
3.1	responseDate	D	10	M	YYYY-MM-DD	Response date
3.2	responseTime	T	8	M	HH:MM:SS	Response time
3.3	responseTimeZone	AN	5		[+|-]HHMM	Timezone in 4 digits

Table 17 – Query locker box status response

6.15 Notification of Expiry Message declaration

Table 18 below defines the fields and hierarchical structure of a DS-15 dataset. This dataset includes fields that provide forward-looking information the describes when a particular locker box is about to expire. It is triggered by the system based on a pre-defined set of rules and expects no response.

DS-15 Notification of Expiry Message declaration						
S/N	**Field Name**	**Type**	**Len**	**M/O**	**Constraints**	**Description**
1	lockerStationId	AN	42	M		Unique identifier of a locker station
2	lockerBoxId	AN	64	M		Unique identifier of a locker box
3	parcelId	AN	42	M		Unique identifier of a locker station
4	**expiryDateTime**					
4.1	expiryDate	D	10	M	YYYY-MM-DD	Expiry date
4.2	expiryTime	T	8	M	HH:MM:SS	Expiry time
4.3	expiryTimeZone	AN	5		[+|-]HHMM	Timezone in 4 digits
5	**notificationDateTime**					
5.1	notificationDate	D	10	M	YYYY-MM-DD	Notification date
5.2	notificationTime	T	8	M	HH:MM:SS	Notification time
5.3	notificationTimeZone	AN	5		[+|-]HHMM	Timezone in 4 digits

Table 18 – Notification of Expiry Message declaration