DHL Invoicing

The invoicing is transactional so requires data extracted from each system.

DHL Invoicing - CTMS

Each server has a crontab entry to run the processing on the 1st of the month. It runs at 0421.

```
#Entry for DHL monthly invoicing

21 4 1 * * /oraapp/util/sql/dhl_invoicing >> /tmp/dhl_invoicing
```

The script calls a database process called DP_DHL_INVOICING.RUN_ME

Using the oratab entries (active systems) the script will run against each live database.

The package code is in CVS and should be maintained through the standard code change procedures.

A system parameter called DHL_INV_EMAIL which contains the list of email addresses to send the output to. Multiple entries should be separated with a semi-colon.

The processing runs slightly different iterations of the queries depending on the system. The queries were split into groups based on the agreed costing models.

There is also a listing of users.

Users:

- List of users who logged in in the last month.

Group 1:

- Trips - count of non-deleted trips in the previous month
- Bookings - count of schedule bookings in the previous month
- Scheduled Orders - count of orders' Load activities in the previous month.

Group 2:

- Scheduled Orders - count of orders' Load activities in the previous month, split down by cost centre and planning group (depot).

Databases and Groups:

Database	Processes Run
aam	Users, Group 1, Group 2
bnl	Users, Group 1, Group 2
con	Users, Group 1, Group 2
dun	Users, Group 1, Capped Orders, Group 2
eur	Users, Group 1, Group 2
hcr	Users, Group 1, Group 2, Scheduled Low Volume Orders, Scheduled Standard Orders
ind	Users, Group 1, Group 2

Note:

- dun - includes a list of capped orders (order count is a minimum of 30 orders per trip, or the count of orders per trip, whichever is the larger).
- hcr - includes a split of low-volume orders (volume <= 0.20) and standard orders (any order not in that list above).

Each database will send an email with an attachment which contains tab separated data. It can be pasted directly into Excel.

DHL Invoicing - LOTS

There is a stored procedure in the MySQL database called dhl_invoicing that contains the SQL.

A bat file D:\LOTS\Invoicing\invoicing.bat runs the stored procedure and emails the file created. The file is then deleted (MySQL cannot overwrite a file).

The list of email addresses is hard coded but it is just a text file that can be edited as required.

The bat file runs from the Windows task scheduler on the first of the month at 0421

Contents

1 NHSBT Loginext ORDS Support Guide....1

2 Support - Tesla EDI Inbound Guide....4
2.1 Order Template....4
2.2 System parameters....4
2.3 Dealership Decodes....4
2.4 Du Type Decodes....4
2.5 Inbound Files....5
2.6 EDI Tables....5
2.7 Inbound EDI....5
2.8 File Format....6
2.9 EDI Parameters....6
2.10 EDI Report Values....7
2.11 Order Processing....8
2.12 Interface Errors....11
2.13 Specifications....12

3 Support - Tesla EDI Outbound Guide....13
3.1 Order Tracking....13
3.2 System parameters....13
3.3 Outbound EDI....13
3.4 EDI Parameters....13
3.5 Messages sent....14
3.6 Triggering Events....14
3.7 Specifications....15

4 Support - Tesla Order Search Guide....16
4.1 Order Search....16
4.2 ORS extracts....17
4.3 Specification....17

1 NHSBT Loginext ORDS Support Guide

LogiNext --> https://nhsbt-websvc01.calidusctms.apteancloud.com/ords/import/order/update/

(i) cloudflare ACL restricted (ie outside of ACL cloudflare returns "BLOCKED") - accessible through jump server 10.43.9.32 - a URL GET returns ORDS error page in browser - expected behaviour ORDS interaction is via POST only

(ii) apache webserver

172.23.45.227 RUNnhswebSVC1 [172.20.45.227] SPKnhswebSVC1 [172.20.43.227]

apache : nhsbt-websvc01.calidusctms.apteancloud.com 172.23.45.226 80

LOGGING : cd /usr/local/apache-2.4.46/apache2/logs cat access_log | grep nhsbt-websvc01.calidusctms.apteancloud.com

(iii) (a) apache --> (b) ORDS --> (c) database

172.23.45.226 RUNnhsprdSVC1 [172.20.45.226] SPKnhsprdSVC1 [172.20.43.226]

(a) apache : nhsbt-websvc01.calidusctms.apteancloud.com 127.0.0.1 8500

LOGGING :

cd /usr/local/apache-2.4.46/apache2/logs cat access_log | grep order

(b) ORDS

/oradb19/ords ords_nhstprd stop ords_nhstprd start

ps -ef |grep ords | grep 8500

/oradb19/ords/java/jdk-21.0.5+11-jre/bin/java -Doracle.dbtools.cmdline.home=/oradb19/ords/nhstprd -Duser.language=en -Duser.region=US - Djava.util.logging.config.file=/oradb19/ords/nhstprd/bin/logging.properties -Djava.awt.headless=true -Dnashorn.args=--no-deprecation-warning - Doracle.dbtools.cmdline.ShellCommand=ords -Duser.timezone=UTC -jar /oradb19/ords/nhstprd/ords.war serve --port 8500

NOTE : GENERATED tokens have a default 1 hour expiry

LOGINEXT APPLICATION HAS A ONEOFF 10 YEAR TOKEN

LOGGING :

note : Java logging is set to FINE

cd /tmp ls -ltr ords*

minutely count : ls -tr ords.nhstprd.log* | while read LINE; do cat $LINE; done | grep order | grep TIM | awk -F"start: " '{print($2)}' | awk -F":" '{print($1":"$2)}' | sort | uniq -c

daily count : ls -tr ords.nhstprd.log* | while read LINE; do cat $LINE; done | grep order | grep TIM | awk -F"start: " '{print($2)}' | awk -F"T" '{print($1)}' | sort | uniq -c 2085 2025-11-21 972 2025-11-22 891 2025-11-23 734 2025-11-24

raw ms ordered ls -tr ords.nhstprd.log* | while read LINE; do cat $LINE; done | grep order | grep TIM | awk -F"duration:" '{print($2)}' | awk -F"ms" '{print($1)}' | sort -n > ords.nhstprd.txt

Ready for What's Next, Now™

(c) database

note : when querying the ORDS schema login as ordsimport/{password}

```
LOGGING :

select * from ords_metadata.sec_sessions

{Results will be displayed}


select * from user_ords_clients;
```

```
-----------------------------------------------------------------
ORDS PL/SQL block
-----------------------------------------------------------------


BEGIN
  ORDS.define_handler(
    p_module_name    => 'rest-json-import-order-update',
    p_pattern        => 'update/',
    p_method         => 'POST',
    p_source_type    => ORDS.source_type_plsql,
    p_source         =>
q'[
    declare
        l_response json_object_t := json_object_t();

  CHUNK_SIZE constant pls_integer := 8192;
  vOffset  pls_integer := 1;
  vData     clob := EMPTY_CLOB();
  vChunk   varchar2(CHUNK_SIZE CHAR);

begin


l_response := mts_owner.dp_loginext.process_inbound(i_message =>  json_object_t.parse(:body));

owa_util.mime_header ('application/json', true);

vData := l_response.to_clob;
  loop
    vChunk := substr (vData, vOffset, CHUNK_SIZE);
    exit when vChunk is null;
    htp.prn(vChunk);
    vOffset := vOffset + length(vChunk);
  end loop;

exception when others then

l_response :=  JSON_OBJECT_T.parse ('{"status":"exception","sqlcode":"'||sqlcode||'","sqlerrm":"'||sqlerrm|
htp.p (l_response.stringify);


end;
    ]',
    p_items_per_page => 0);

  COMMIT;

END;
/

-----------------------------------------------------------------



Postman

        https://nhsbt-websvc01.calidusctms.apteancloud.com/ords/import/oauth/token
```


Ready for What's Next, Now™

```
        select * from user_ords_clients;

        Grant Type              Client Credentials
        Client ID               {from previous query}
        Client Secret           {from previous query}
        Scope                   Bearer
        Client Authentication   Send as Basic Auth header

        - will generate a token which expires in 1 hour


        or just use client 10 year token


A basic test is to just pass a dummy payload to the webservice
        {abc}

returns :
        {"status":"exception","sqlcode":"-40441","sqlerrm":"ORA-40441: JSON syntax error"}
```


Ready for **What's Next, Now**™

2 Support - Tesla EDI Inbound Guide

2.1 Order Template

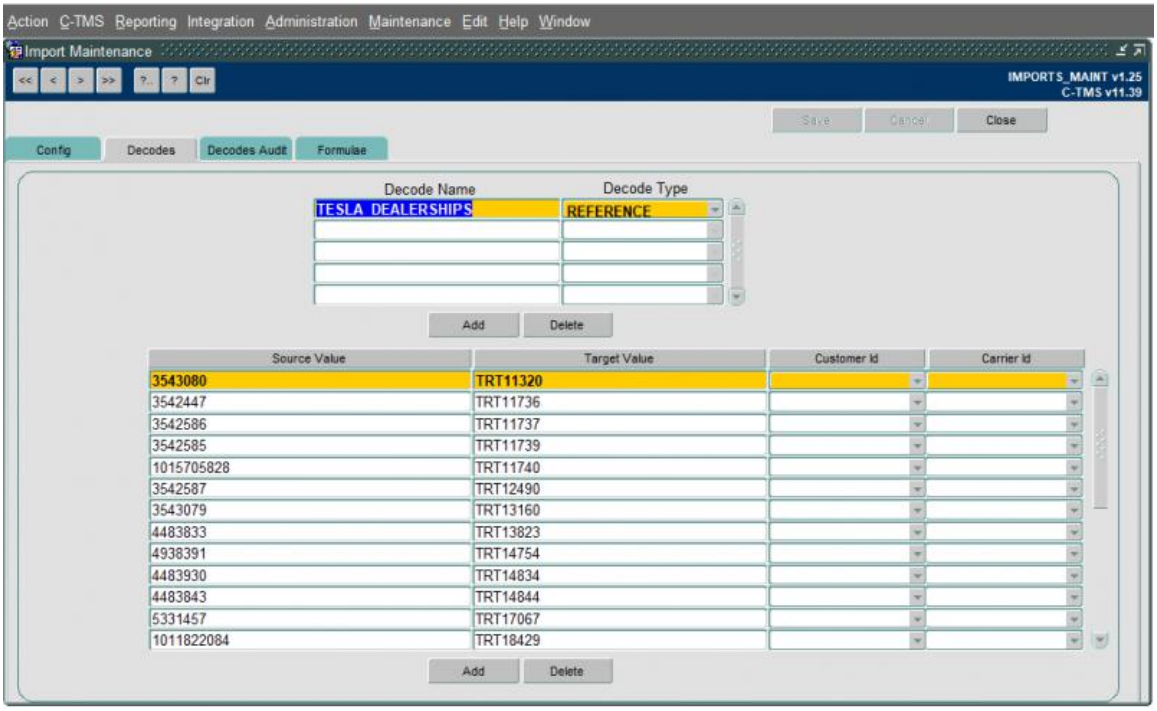
For each dealership an order will be created each day, this is a placeholder which will be added to by the import process. This is existing fixed schedules functionality which has not been modified for Tesla.

2.2 System parameters

ALLOW_MULTIPLE_ADD_REFS should be set to Y for the appropriate cost centre.

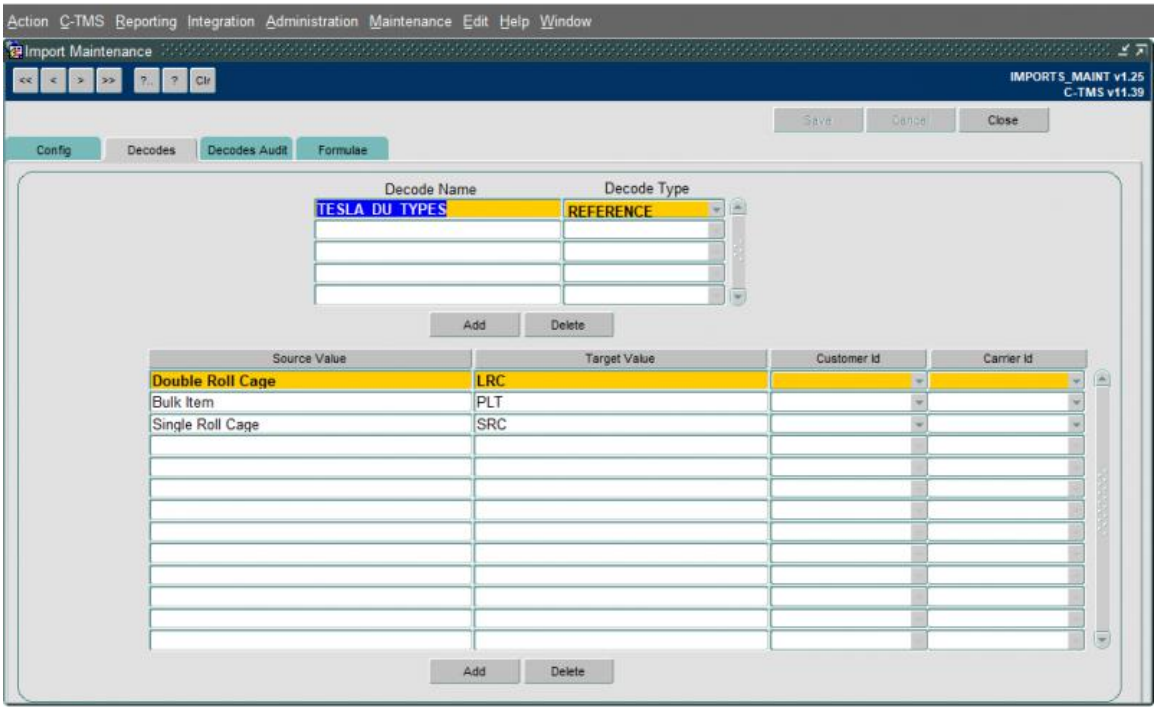
2.3 Dealership Decodes

The delivery locations in the inbound files are the Tesla dealership locations not CTMS locations and as such must be decoded, scripts have been created and released during the normal release process to create these decodes



2.4 Du Type Decodes

The du types in the inbound files are the Tesla du types not du types and as such must be decoded, scripts have been created and released during the normal release process to create these decodes



2.5 Inbound Files

An example inbound file is included below

2.6 EDI Tables

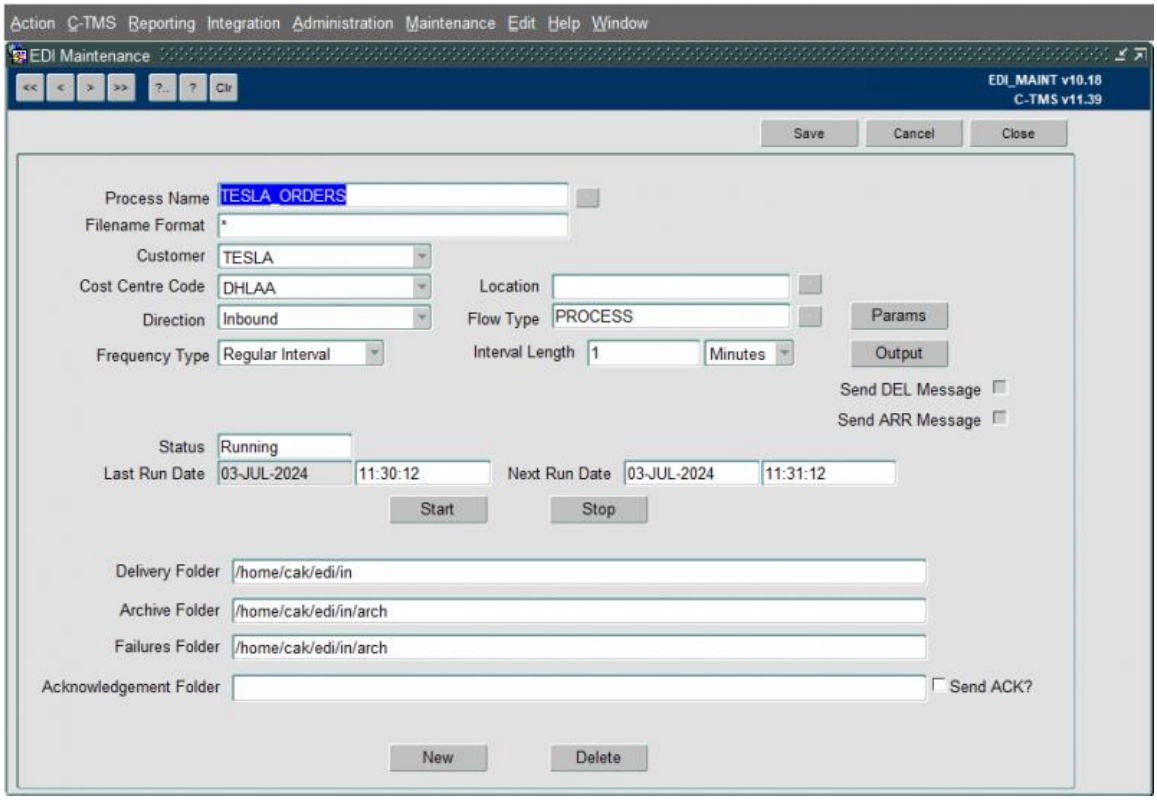
Two new tables have been created to hold the details of the Inbound files

- TESLA_EDI_ORDER_HEADER
- TESLA_EDI_ORDER_DETAILS

Each table has an associated sequence, and the detail is linked to the header by the header ID.

2.7 Inbound EDI

A new EDI flow will be present for the DHLAA cost centre and the Tesla customer. The import processes will be completed within the DP_TESLA_EDI package using the IMPORT_ORDERS procedure.

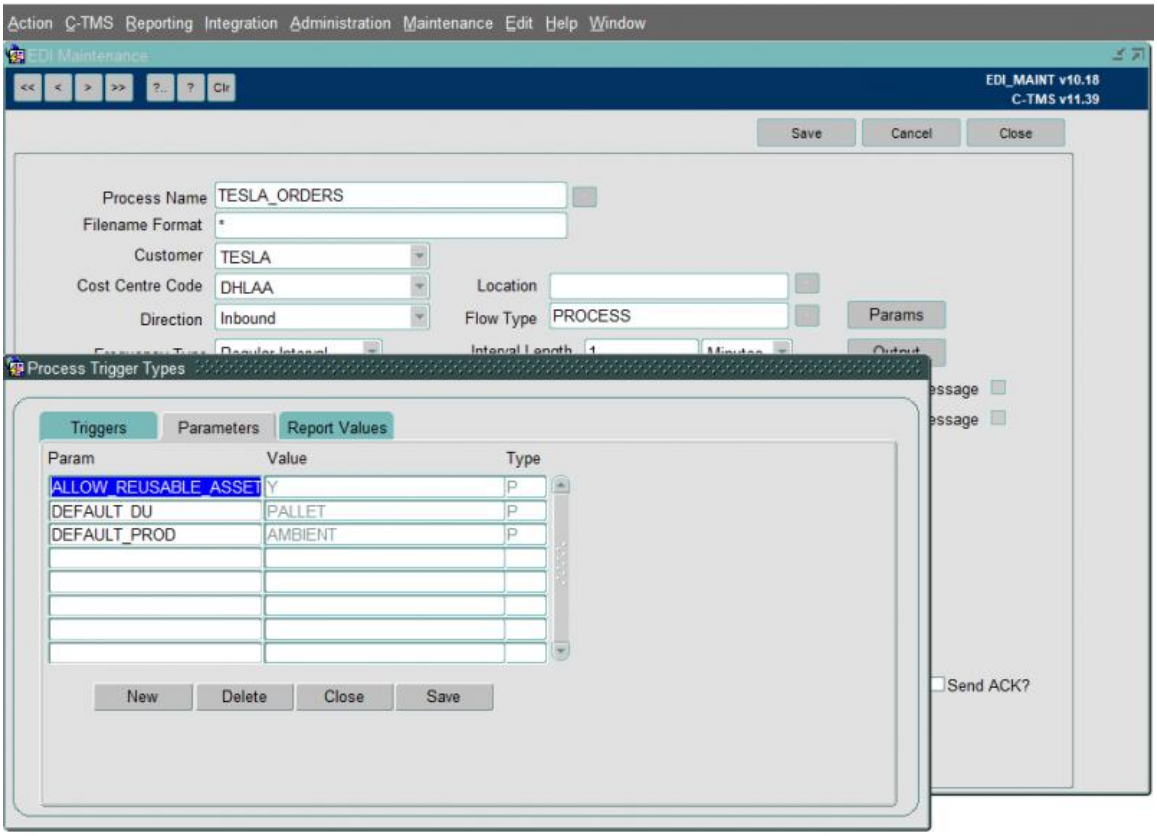


2.8 File Format

The test files provide simply have numeric a file name, so the file pattern is not specified on the EDI flow. An example file is included above.

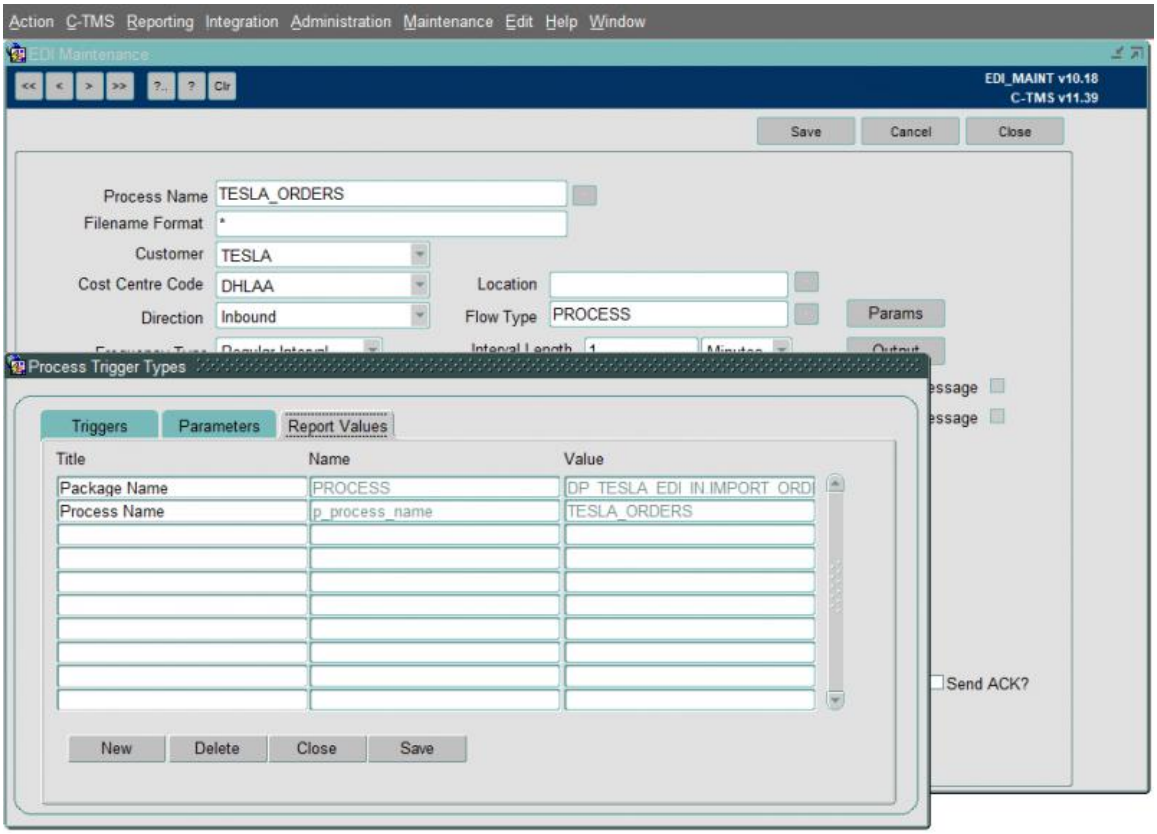
2.9 EDI Parameters

The following Parameters are required



2.10 EDI Report Values

The following Report values are required



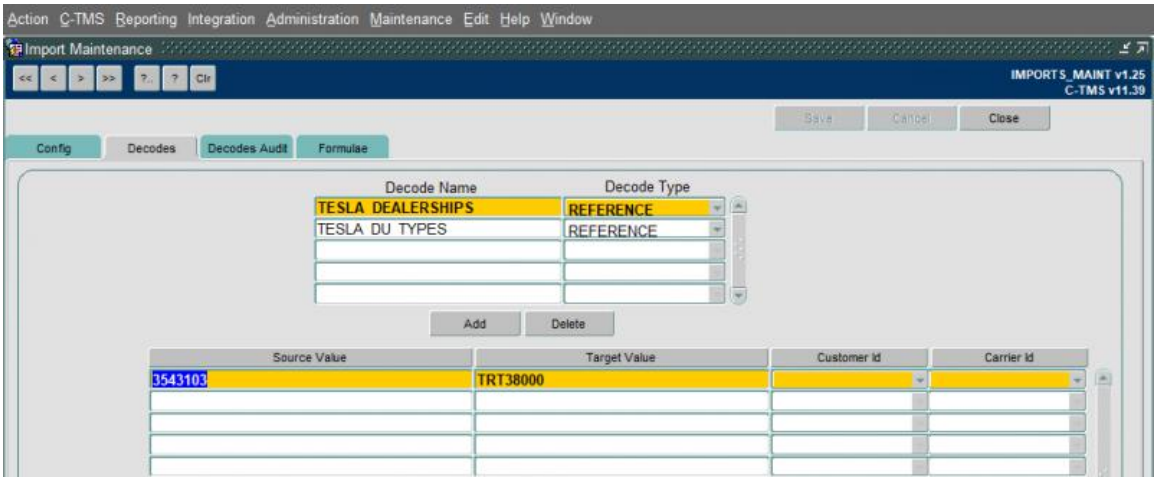
Ready for **What's Next, Now**™

2.11 Order Processing

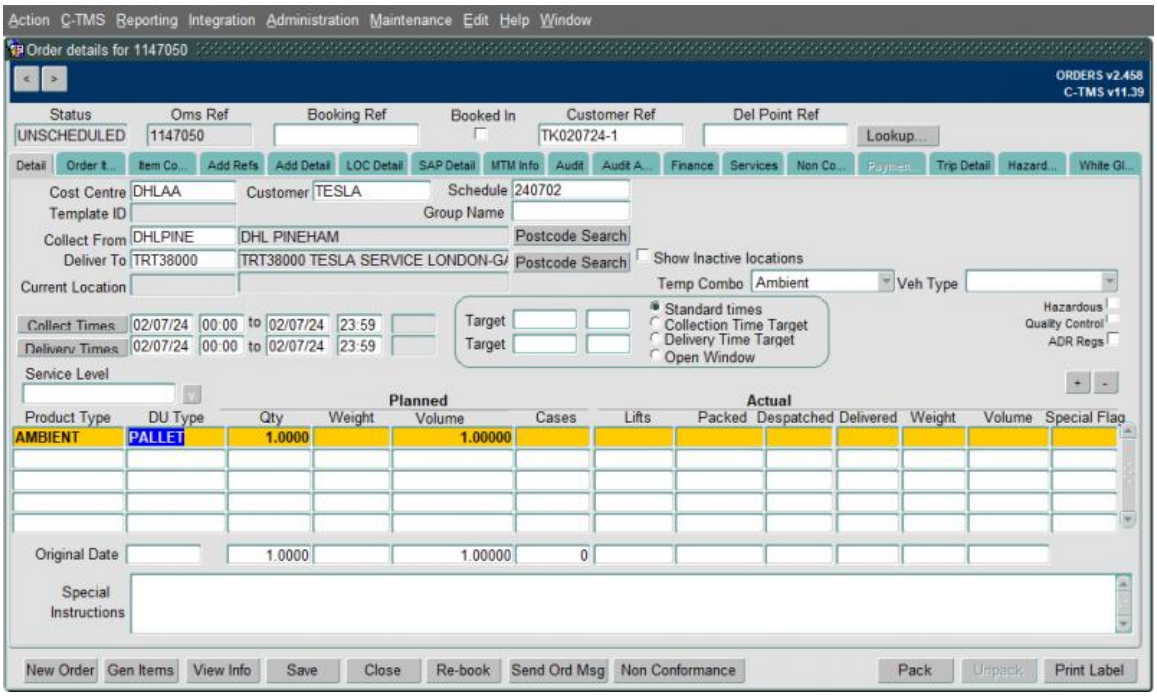
An order will exist on the correct schedule for each dealership in the inbound file the delivery date can be found in the ?deliveryStartDateTime? tag and the dealership in the ?referenceField7? tag


```
<order>
<orderNumber>0009820014</orderNumber>
<carrierName>TTN</carrierName>
<carrierServiceLevel>STD</carrierServiceLevel>
<referenceField6>VIN</referenceField6>
<referenceField7>3543103</referenceField7>
<referenceField8>45516</referenceField8>
<referenceField9>0</referenceField9>
<pickupStartDateTime>2024-06-16T06:29:00</pickupStartDateTime>
<deliveryStartDateTime>2024-07-02T10:57:41.828</deliveryStartDateTime>
```


The correct CTMS dealership location will then be found using the decode



A skeleton order will exist in CTMS which will have been created by an existing process note the schedule and delivery location agree with your inbound file, if no order is found on the schedule for the dealership an error will be raised and the order will not be processed.



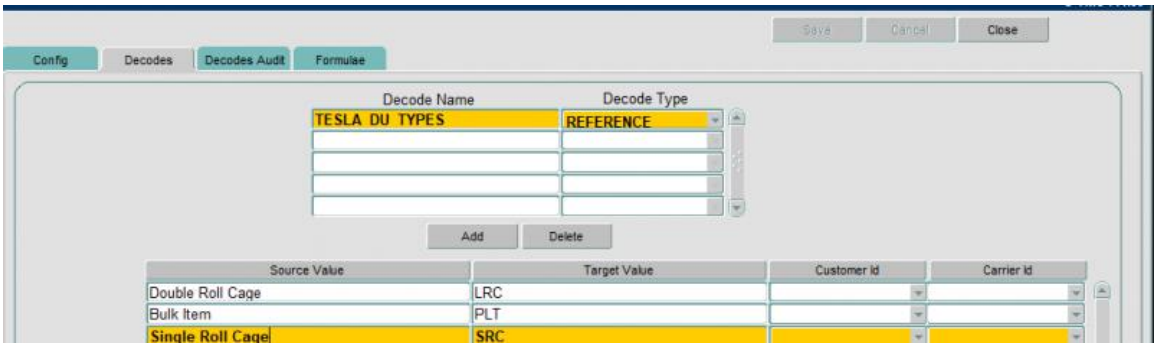
The product type is not contained in the inbound file so therefore must exist as a default parameter on the EDI flow. If no default is present an error will be raised and the order will not process.

Ready for **What's Next, Now**™

The Du type must also exist as an EDI parameter on the flow. An attempt will be made to decode the passed in palletSize value which contains a du type which has been mapped so in this example

```
<pallet>
 <palletID>PAL01072024</palletID>
 <palletType>Roll_Cages_TTN</palletType>
 <palletSize>Single Roll Cage</palletSize>
```

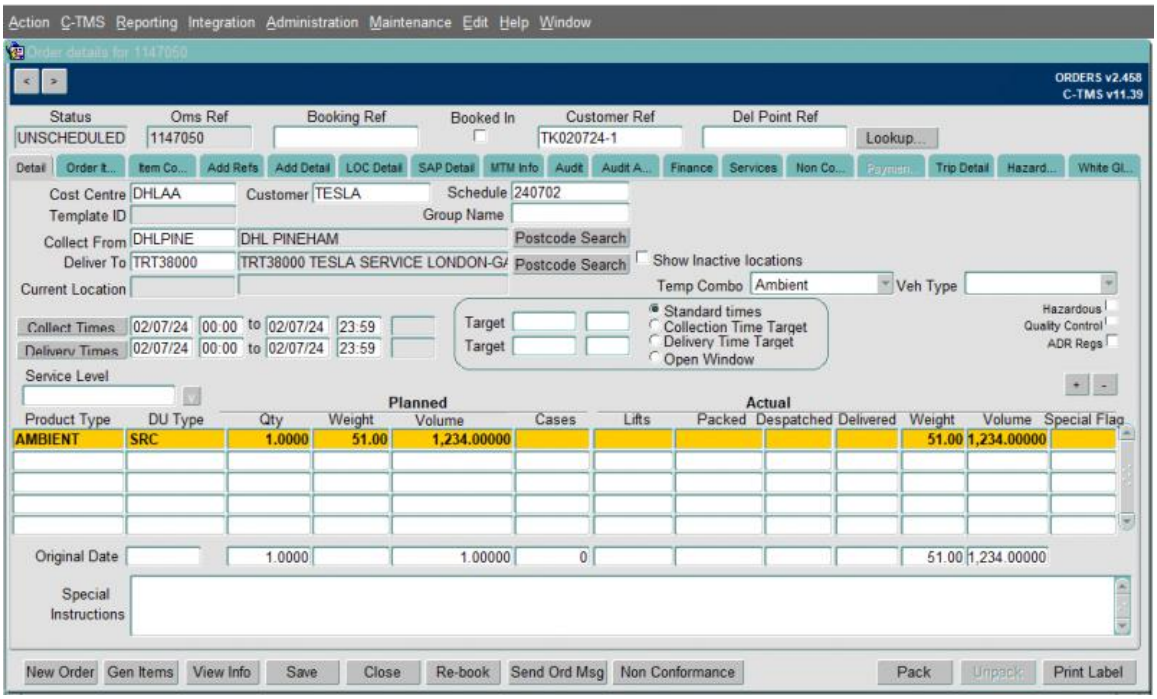
Maps to



If no mapping is found the EDI default will be used. If no default is present an error will be raised and the order will not process.

Once the correct order has been located and the product and DU type validated. The order will be updated with the details in the inbound file.

If the DU type doesn?t exist on the current order a new line will be created for that DU type, the placeholder line will be removed at this point if no items exist with the same du type.

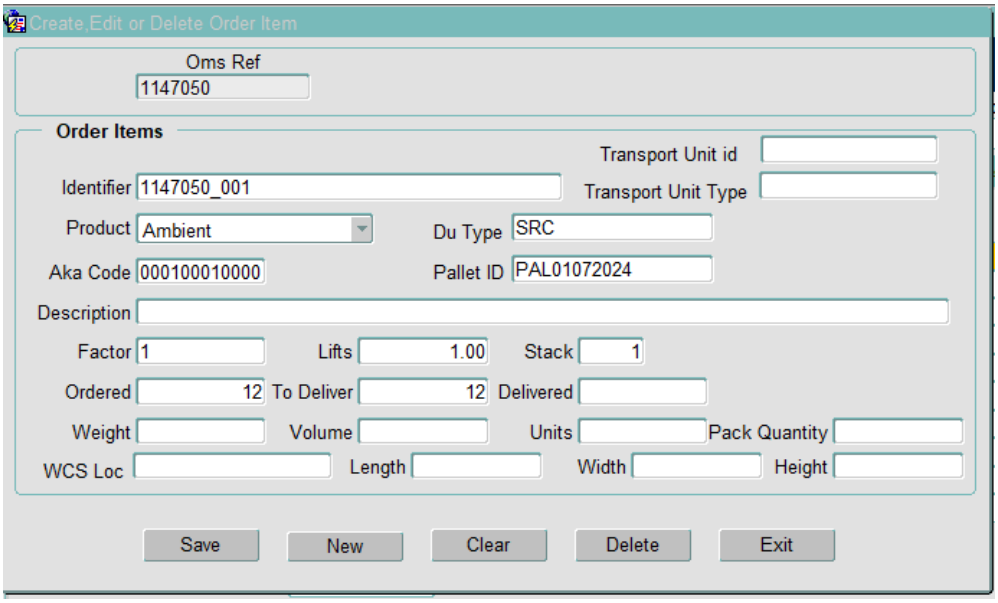


Note the weight and volume on the line these are taken directly from the inbound pallet section and should not be manipulated.

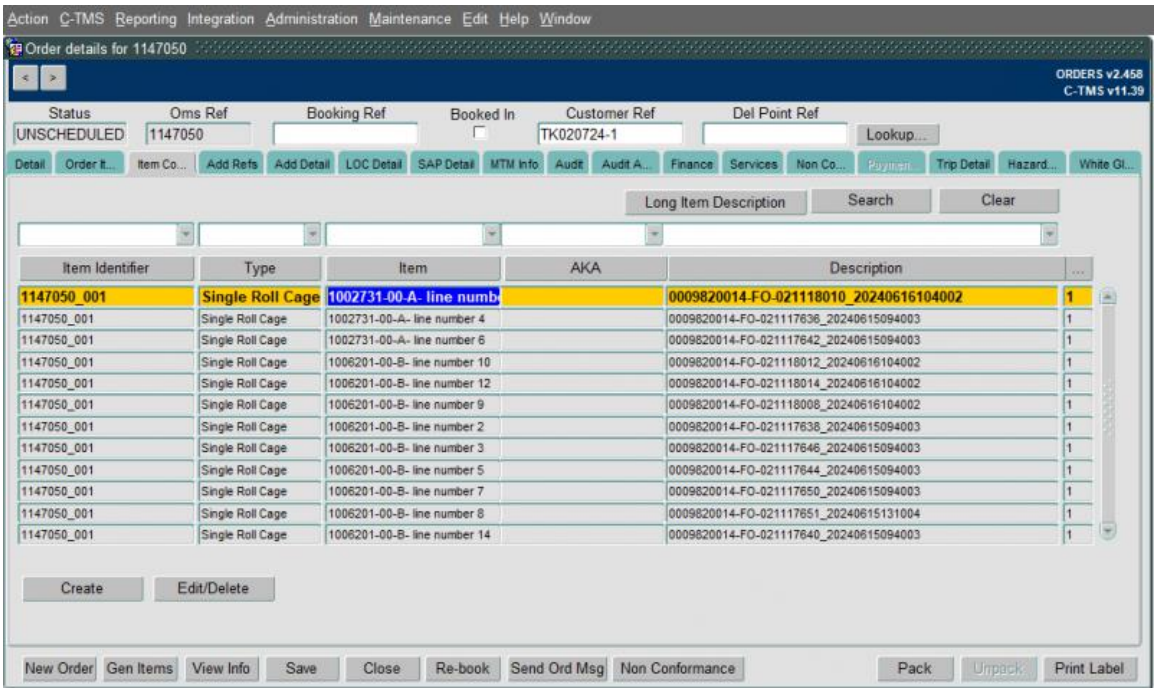
Ready for **What's Next, Now**™

```
<pallet>
<palletID>PAL01072024</palletID>
<palletType>Roll_Cages_TTN</palletType>
<palletSize>Single Roll Cage</palletSize>
<palletLength>85</palletLength>
<palletWidth>74</palletWidth>
<palletHeight>169</palletHeight>
<palletWeight>51</palletWeight>
<palletVolume>1234</palletVolume>
```


Order items will have been created

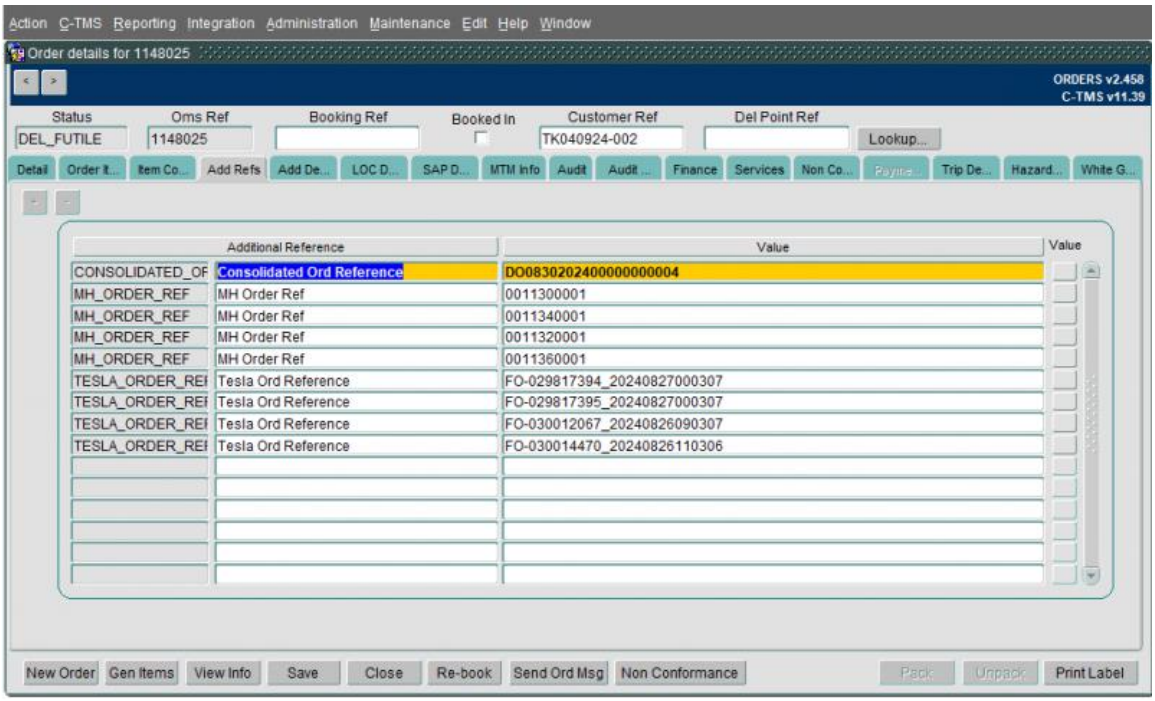


Item contents will have been created



Additional References will have been created to indicate the Consolidated order reference, MH Order references(s) and Tesla references(s)

Ready for **What's Next, Now**™



Each reference should only be stored once and the values are found as follows

Consolidated Order - ?aggregatedOrderNumber? tag, only 1 per order will be stored

```
<order>
<orderNumber>0011320001</orderNumber>
<aggregatedOrderNumber>DO08302024000000000004</aggregatedOrderNumber>
<carrierName>DSC TTN</carrierName>
<carrierServiceLevel>STD</carrierServiceLevel>
<referenceField6>VIN</referenceField6>
<referenceField7>1008612153</referenceField7>
```

MH(Manhattan) Order ref - ?OrderNumber? tag

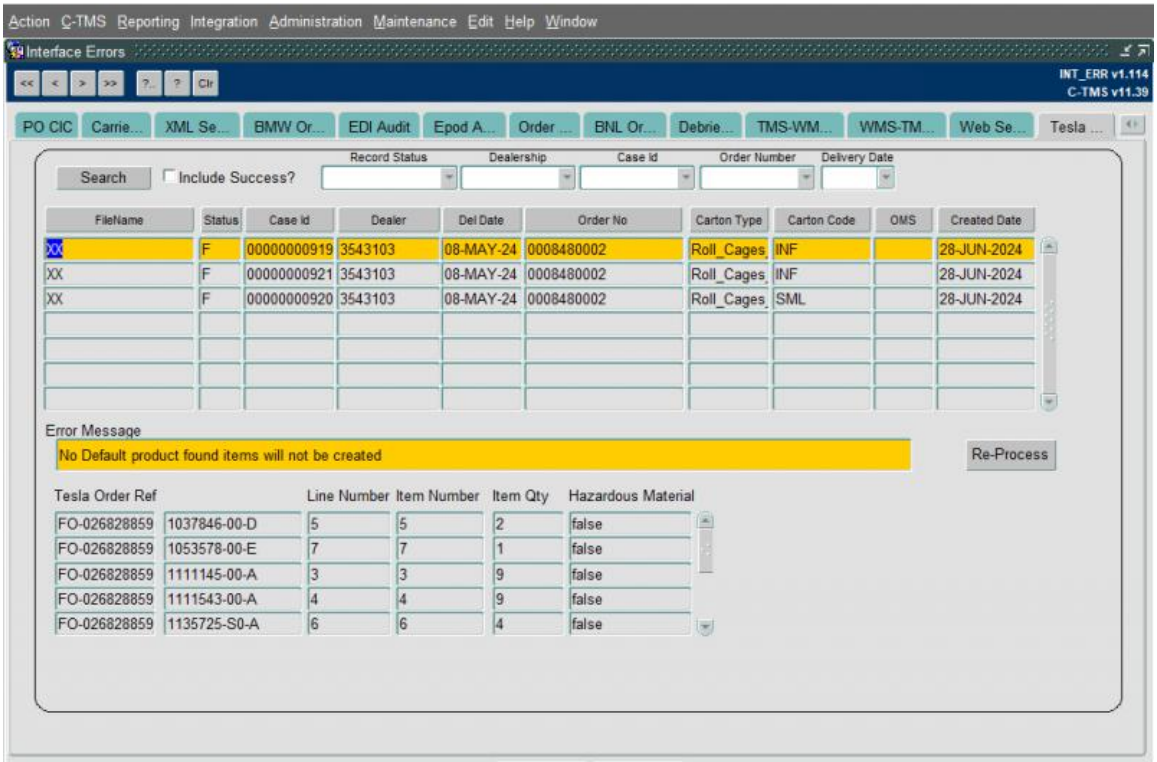
```
<order>
<orderNumber>0011320001</orderNumber>
<aggregatedOrderNumber>DO08302024000000000004</aggregatedOrderNumber>
<carrierName>DSC TTN</carrierName>
<carrierServiceLevel>STD</carrierServiceLevel>
<referenceField6>VIN</referenceField6>
<referenceField7>1008612153</referenceField7>
```

Tesla Reference - ?referenceField4? of the line section

```
<orderLines>
<line>
<lineNumber>11</lineNumber>
<itemNumber>1002731-00-A</itemNumber>
<orderedQuantity>1</orderedQuantity>
<shippedQuantity>0</shippedQuantity>
<unitOfMeasure>Units</unitOfMeasure>
<inventoryStatus>A</inventoryStatus>
<referenceField1>STOCK</referenceField1>
<referenceField2>7505448916</referenceField2>
<referenceField3>DELIVERY</referenceField3>
<referenceField4>FO-021118004_20240616104002</referenceField4>
<referenceField5>58771966</referenceField5>
```

2.12 Interface Errors

A new Tesla Orders tab page has been added to the interface errors screen which will contain the success/failure stats of each or the file imports and allow the user to reprocess any failed records after the issue has been corrected. This process will use the same package functionality as the inbound orders.



2.13 Specifications

P:\Development\CTMS\DHL\543347 SCR - Tesla Order Interface

P:\Development\CTMS\DHL\613005 SCR - Changes to the Tesla Order Interface

P:\Development\CTMS\DHL\632041 - Changes to Tesla order interface for Aggregated order number

3 Support - Tesla EDI Outbound Guide

3.1 Order Tracking

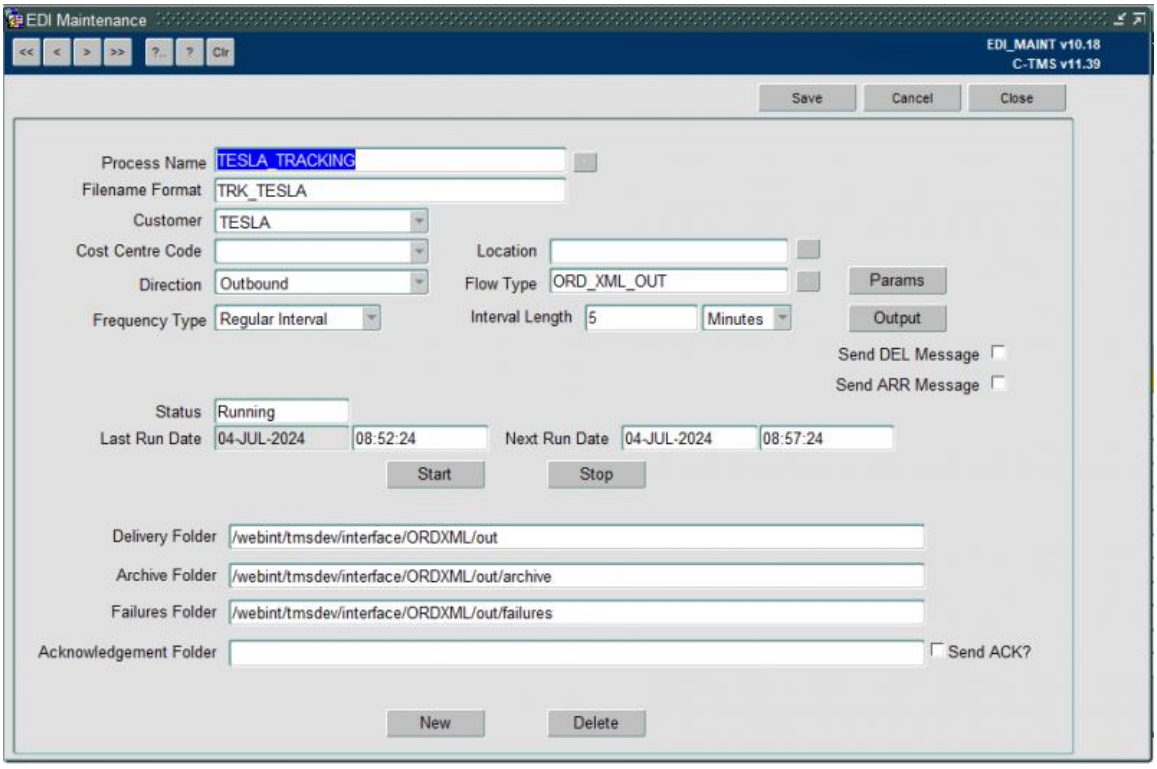
A customer specific tracking interface is required to track the milestones associated with an order.

3.2 System parameters

USE_XML_ORDER_SUB_REFS should be set to Y for the appropriate cost centre.

3.3 Outbound EDI

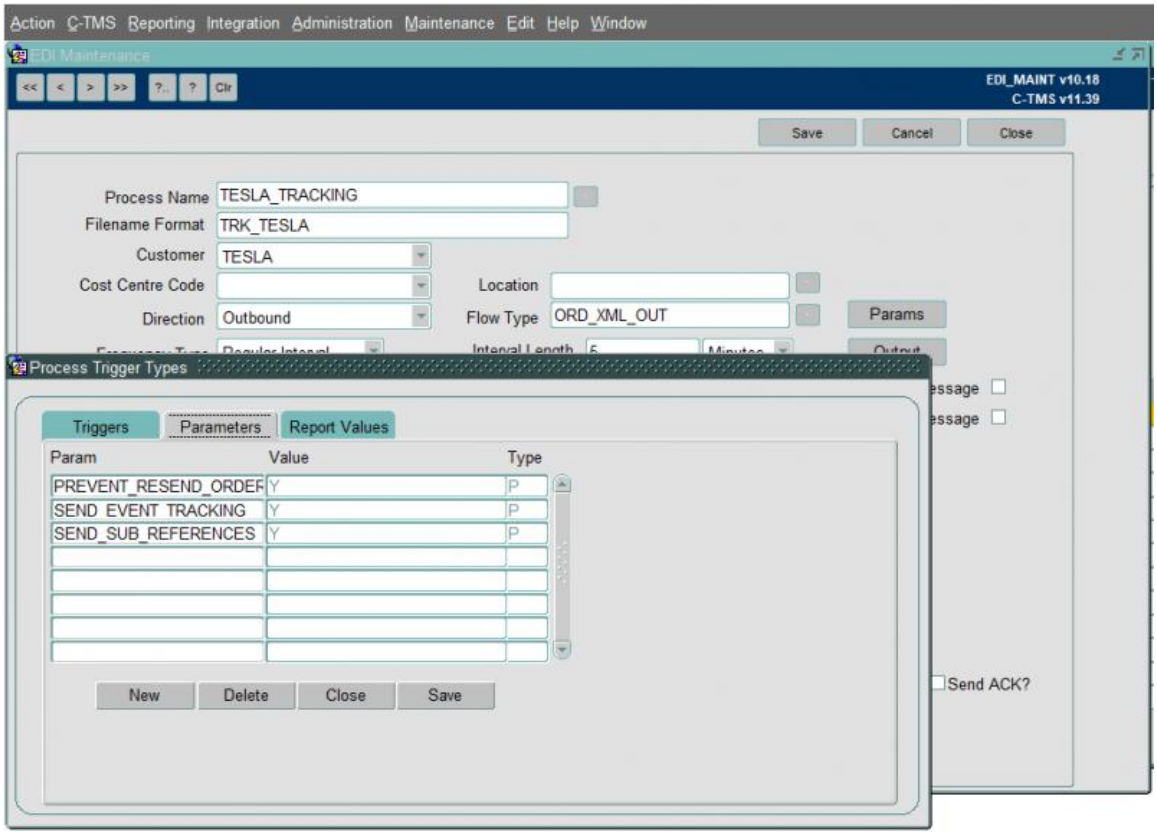
A new EDI flow will be present for the DHLAA cost centre and the Tesla customer. The flow uses the standard ORD_XML_OUT flow type and includes a Milestones section.



3.4 EDI Parameters

The following Parameters are required

Ready for What's Next, Now™



3.5 Messages sent

The following message types will be sent

- ORD
- CAN
- DEP
- ARR
- DEL

3.6 Triggering Events

An **?ORD?** message will be triggered when the first item is added to an order and will only be sent once. The EDI parameter called ?PREVENT_RESEND_ORDER? will be set to ?Y? to ensure that a control record for an ?ORD? message is not created when an earlier message has been processed successfully. The trigger ?TRG_SOI_XML? will create the control record. The OMS status is ?UNSCHEDULED? and the milestone comment is ?Booking Acknowledged?

A **?DEP?** message will be created when the actual departure time on the collection stop of an order is updated to show that the vehicle has left the collection location.

The trigger ?TRG_STS_XML_OUT? will create the control record. The OMS status is ?SCHEDULED? and the milestone comment is ?Departed Origin? if this is the initial collection location or ?Departed Consolidation Facility? if the location is a x-dock location.

An **?ARR?** message will be created when the actual arrival time on the delivery stop of an order is updated to show that the vehicle has arrived at the delivery location. The trigger ?TRG_STS_XML_OUT? will create the control record. The OMS status is ?SCHEDULED? and the milestone comment is ?At Dest? if this is the final delivery location or ?At Consolidation Facility? if the location is a x-dock location.

****Note** If an order exists on multiple trips the ?DEP? and ?ARR? messages will be sent for each leg of the orders journey.

A **?DEL?** message will be created when the delivered quantities on an order line are updated for the first time, i.e. when the delivered quantity is changed from null to 1, for example. The trigger TRG_SOL_XML will create the control record

A **?CAN?** message will be triggered if the status of an order is set to ?CANCELLED?. The trigger ?TRG_SCH_ORD_XML_INT? will create the control record. The OMS status is ?CANCELLED? and the milestone comment ?Booking Rejected?.

3.7 Specifications

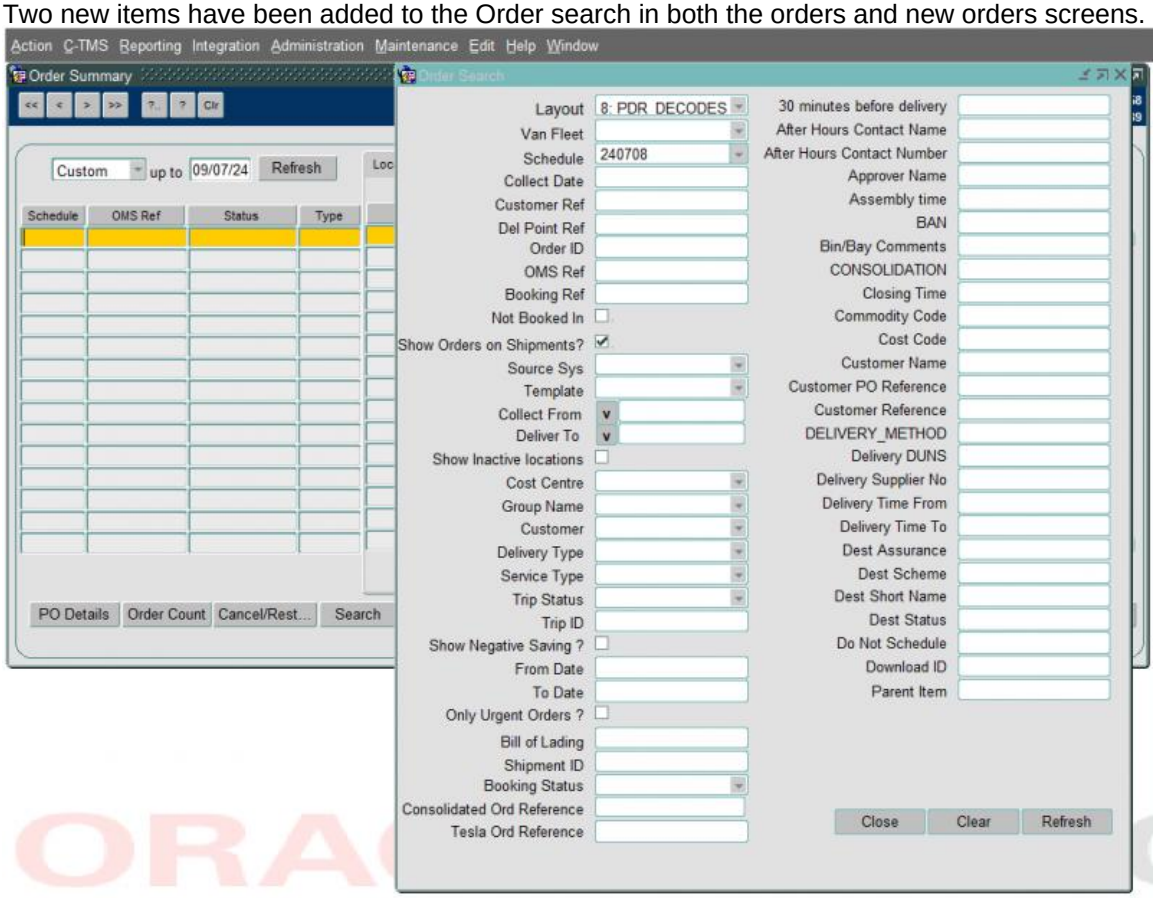
P:\Development\CTMS\DHL\545095 - SCR-CTMS-02428249-05 - CTMS - Customer-Specific Tracking File

P:\Development\CTMS\DHL\623640- Changes to Tesla tracking milestones

4 Support - Tesla Order Search Guide

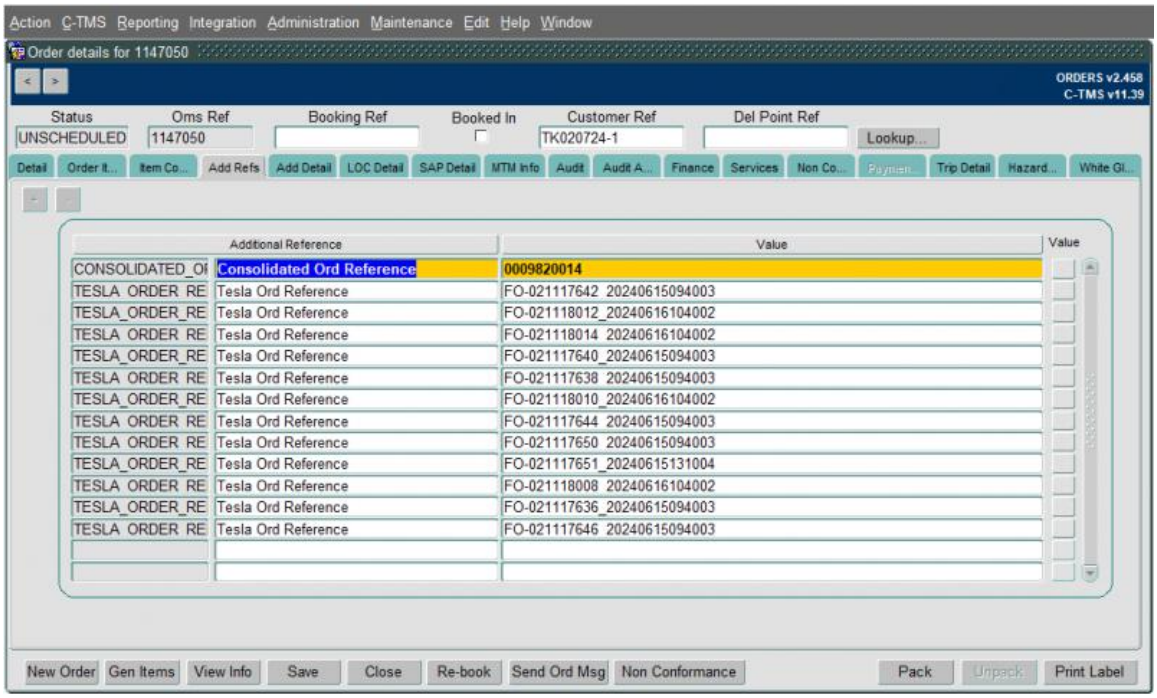
4.1 Order Search

Two new items have been added to the Order search in both the orders and new orders screens.



These will allow the user to search for orders containing a Tesla or consolidated order reference. These values are stored in the SCH_ORD_REFRENCES table and can be viewed in the Additional References tab page.

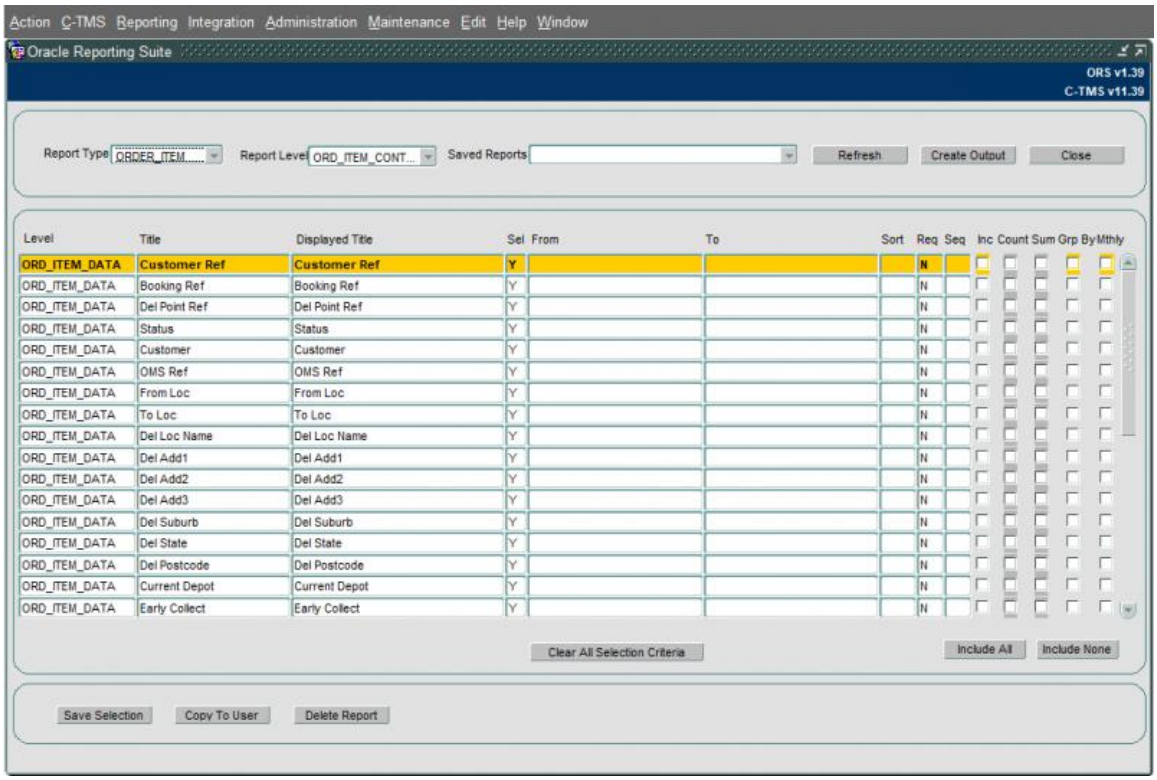
An order may have multiple references



System parameter ALLOW_MULTIPLE_ADD_REFS will allow the user to enter multiple additional references with the same type manually if required.

4.2 ORS extracts

The existing ORDER_ITEM ORS extract has been modified to add a new content level which will be used by Tesla full mapping details for the extract can be found in the Functional Spec located on the projects drive here -



4.3 Specification

P:\Development\CTMS\DHL\528798 SCR-CTMS-02428249-04 - CTMS - Reports - Tracking Report - Spec