

**Virgin Trains West Coast**

**Staging Design specification**

Transactions

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# Document Management

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| --- | --- | --- | --- |
| **Version Control** | | | |
| **Version** | **Date** | **Author(s)** | **Sections Changed** |
| 0.1 | 18/07/2018 | Juanjo Diaz | Initial draft document |

| **Distribution List** | | |
| --- | --- | --- |
| **Organisation** | **Name** | **Role** |
| Merkle | Mark Jones | Client Lead / Project Manager |
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# Document Purpose

The purpose of this document is to describe the load process between PreProcessing and Staging Transaction tables.

This document is intended for technical audience who is going to develop/maintain or test this process.

## 2.1 In Document Scope

The following items are in scope for this document:

* Table definition
* Column mappings
* Data flow diagram

## 2.2 Out of Document Scope

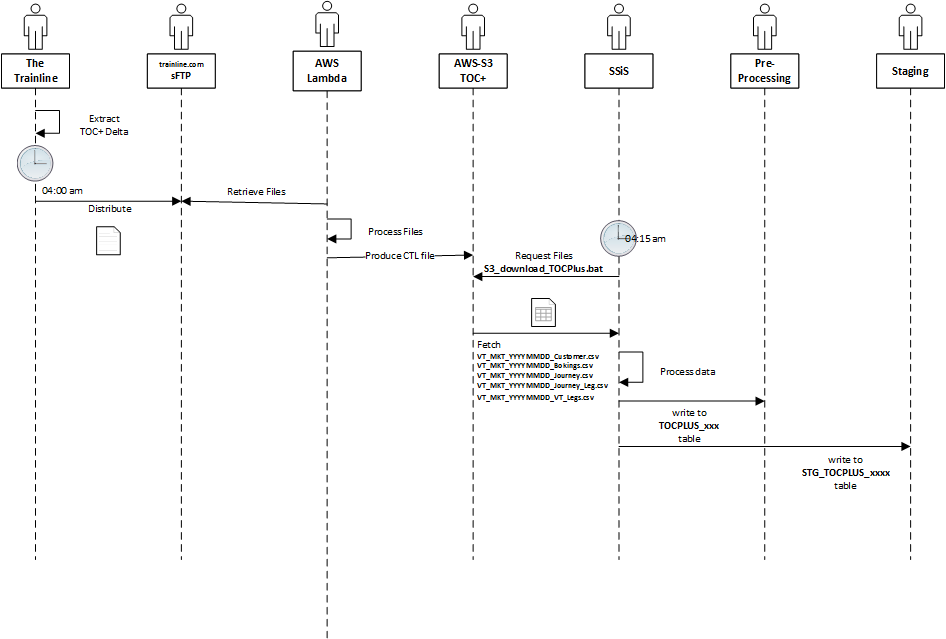
The following items are out of scope for this document and will be covered to separate design documents:

* The SFTP to S3 bucket transfer and logging
  + This is covered as part of the pre-processing load diagram
* The design to process records through to pre-processing

# High Level Overview

## 3.1. Process Context Diagram

The trainline.com will produce a daily extract and place on their sFTP server for retrieval and processing by Virgin Trains West Coast.



Each set of daily files will be loaded to pre-processing, and this document addresses the design of the load to the Staging environment from pre-processing.

## 3.2. Process Flow

As part of the Transaction process we are loading Loyalty (Nectar & Virgin Flying Club). Diagrams below describes how that process works.

## 3.2.1 General Process Overview

SSiS is responsible for triggering Transaction process. First step is to read all new rows from PreProcessing Transaction table and load them into the Staging Transaction table. Once the process is successfully completed, Loyalty load will be triggered by SSiS therefore, Nectar and Virgin Flying Club processes will update Staging Transaction table. Errors will be captured and written into Audit tables and processes will prevent processes to continue.



## 3.2.2 Transaction Load Process

SSiS is responsible for triggering Transaction Load. First step is to read todays data from PreProcessing table and insert only those rows that a customer can be associated. Once all transactions have been inserted DateFirstPurchase and DateLastPurchase rows on Staging.STG\_Customer table should be updated. At the end of the ProcessedInd will be updated for those rows that have been loaded and counts will be audited and returned. Errors will be stored on Audit tables and function will return an error.



## 3.2.2 Loyalty Load (Nectar & Virgin Flying Club)

SSiS is responsible for triggering Loyalty process. First step is to read new data from PreProcessing tables and update Staging.STG\_Transaction table with the latest information. At the end of the ProcessedInd will be updated for those rows that have been loaded and counts will be audited and returned



# Tables

This section contains a description of the tables involved on this process.

## PreProcessing.TOCPLUS\_Transaction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **IS\_NULLABLE** | **LENGTH** | **PRECISION** |
| TOCTransactionID | int | NO | NULL | 10 |
| cmdtransactionid | bigint | YES | NULL | 19 |
| tcstransactionid | bigint | YES | NULL | 19 |
| tcscustomerid | bigint | YES | NULL | 19 |
| businessorleisure | nchar | YES | 1 | NULL |
| retailercode | nvarchar | YES | 25 | NULL |
| transactiondate | datetime | YES | NULL | NULL |
| totalnoofallpurchases | int | YES | NULL | 10 |
| totalcostofallpurchases | numeric | YES | NULL | 6 |
| internationalflag | nchar | YES | 1 | NULL |
| hotelbookingcost | numeric | YES | NULL | 6 |
| originatingsystem | nvarchar | YES | 15 | NULL |
| originatingsystemtype | nvarchar | YES | 20 | NULL |
| cmddateupdated | datetime | YES | NULL | NULL |
| paymenttype | nvarchar | YES | 5 | NULL |
| cardtype | nvarchar | YES | 15 | NULL |
| voucherused | nvarchar | YES | 3 | NULL |
| affiliatecode | nvarchar | YES | 10 | NULL |
| corporateorleisure | nvarchar | YES | 20 | NULL |
| operatingsystem | nvarchar | YES | 20 | NULL |
| mobiledevice | nvarchar | YES | 20 | NULL |
| channelcode | nvarchar | YES | 25 | NULL |
| DateCreated | datetime | YES | NULL | NULL |
| DateUpdated | datetime | YES | NULL | NULL |
| PaymentTypeDesc | nvarchar | YES | 50 | NULL |
| CreatedDateETL | datetime | YES | NULL | NULL |
| LastModifiedDateETL | datetime | YES | NULL | NULL |
| ProcessedInd | nchar | YES | 1 | NULL |
| DataImportDetailID | int | YES | NULL | 10 |

## Staging.STG\_Transaction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **IS\_NULLABLE** | **LENGTH** | **PRECISION** |
| SalesTransactionID | int | NO | NULL | 10 |
| Name | nvarchar | YES | 256 | NULL |
| Description | nvarchar | YES | 4000 | NULL |
| CreatedDate | datetime | NO | NULL | NULL |
| CreatedBy | int | NO | NULL | 10 |
| LastModifiedDate | datetime | NO | NULL | NULL |
| LastModifiedBy | int | NO | NULL | 10 |
| ArchivedInd | bit | NO | NULL | NULL |
| SourceCreatedDate | datetime | YES | NULL | NULL |
| SourceModifiedDate | datetime | YES | NULL | NULL |
| SalesTransactionDate | datetime | NO | NULL | NULL |
| SalesAmountTotal | decimal | YES | NULL | 14 |
| LoyaltyReference | nvarchar | YES | 32 | NULL |
| RetailChannelID | int | YES | NULL | 10 |
| LocationID | int | YES | NULL | 10 |
| CustomerID | int | YES | NULL | 10 |
| IndividualID | int | YES | NULL | 10 |
| ExtReference | nvarchar | YES | 256 | NULL |
| InformationSourceID | int | NO | NULL | 10 |
| BookingReference | nvarchar | YES | 256 | NULL |
| FulfilmentMethodID | int | YES | NULL | 10 |
| NumberofAdults | int | YES | NULL | 10 |
| NumberofChildren | int | YES | NULL | 10 |
| FulfilmentDate | datetime | YES | NULL | NULL |
| SuperSalesInd | bit | YES | NULL | NULL |
| SalesAmountNotRail | decimal | YES | NULL | 14 |
| SalesAmountRail | decimal | YES | NULL | 14 |
| BookingReferenceLong | nvarchar | YES | 256 | NULL |
| BookingSourceCd | nvarchar | YES | 100 | NULL |
| LoyaltySchemeName | nvarchar | YES | 256 | NULL |
| LoyaltyProgrammeTypeID | int | YES | NULL | 10 |
| SalesTransactionNumber | nvarchar | YES | 256 | NULL |

## PreProcessing.TOCPLUS\_Nectar

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **IS\_NULLABLE** | **LENGTH** | **PRECISION** |
| TOC\_NectarID | int | NO | NULL | 10 |
| nectarcardnumber | nvarchar | YES | 50 | NULL |
| trid | bigint | YES | NULL | 19 |
| locationid | nvarchar | YES | 15 | NULL |
| trandatetime | datetime | YES | NULL | NULL |
| tranamount | numeric | YES | NULL | 6 |
| transtype | nvarchar | YES | 5 | NULL |
| CreatedDateETL | datetime | YES | NULL | NULL |
| LastModifiedDateETL | datetime | YES | NULL | NULL |
| ProcessedInd | bit | YES | NULL | NULL |
| DataImportDetailID | int | YES | NULL | 10 |

## PreProcessing.TOCPLUS\_VAFlyerTravel

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **IS\_NULLABLE** | **LENGTH** | **PRECISION** |
| TOCVAFlyerTransID | int | NO | NULL | 10 |
| tr\_id | bigint | YES | NULL | 19 |
| mem\_number | bigint | YES | NULL | 19 |
| ticket\_class | nvarchar | YES | 5 | NULL |
| total\_cost\_rail\_revenue | numeric | YES | NULL | 6 |
| amount\_points | bigint | YES | NULL | 19 |
| out\_date | datetime | YES | NULL | NULL |
| CreatedDateETL | datetime | YES | NULL | NULL |
| LastModifiedDateETL | datetime | YES | NULL | NULL |
| ProcessedInd | bit | YES | NULL | NULL |
| DataImportDetailID | int | YES | NULL | 10 |

## PreProcessing.TOCPLUS\_Journey

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **COLUMN\_NAME** | **DATA\_TYPE** | **IS\_NULLABLE** | **LENGTH** | **PRECISION** |
| TOC\_JourneyID | int | NO | NULL | 10 |
| journeyid | bigint | YES | NULL | 19 |
| purchaseid | bigint | YES | NULL | 19 |
| tcscustomerid | bigint | YES | NULL | 19 |
| tcstransactionid | bigint | YES | NULL | 19 |
| tcsbookingid | bigint | YES | NULL | 19 |
| transactiondate | datetime | YES | NULL | NULL |
| channelcode | nvarchar | YES | 15 | NULL |
| businessorleisure | nchar | YES | 1 | NULL |
| faresettingtoc | nvarchar | YES | 3 | NULL |
| origstation | nvarchar | YES | 50 | NULL |
| deststation | nvarchar | YES | 50 | NULL |
| reasonfortravel | nvarchar | YES | 50 | NULL |
| outdatedep | datetime | YES | NULL | NULL |
| outdatearr | datetime | YES | NULL | NULL |
| retdatedep | datetime | YES | NULL | NULL |
| retdatearr | datetime | YES | NULL | NULL |
| journeytype | nchar | YES | 1 | NULL |
| travellername | nvarchar | YES | 100 | NULL |
| railcarddesc | nvarchar | YES | 50 | NULL |
| railcard1 | nvarchar | YES | 5 | NULL |
| noofrailcards | int | YES | NULL | 10 |
| totaladults | int | YES | NULL | 10 |
| totalchildren | int | YES | NULL | 10 |
| totalreturningadults | int | YES | NULL | 10 |
| totalreturningchildren | int | YES | NULL | 10 |
| costoftickets | numeric | YES | NULL | 6 |
| totalcost | numeric | YES | NULL | 6 |
| savingsmade | numeric | YES | NULL | 6 |
| procode | nvarchar | YES | 15 | NULL |
| tickettypecode | nvarchar | YES | 5 | NULL |
| tickettypedesc | nvarchar | YES | 50 | NULL |
| deliverymethodcode | nvarchar | YES | 20 | NULL |
| deliverymethoddescription | nvarchar | YES | 50 | NULL |
| journeydirection | nvarchar | YES | 5 | NULL |
| journeyreference | nvarchar | YES | 20 | NULL |
| cmddateupdated | datetime | YES | NULL | NULL |
| class | nchar | YES | 1 | NULL |
| origstationcode | nvarchar | YES | 5 | NULL |
| deststationcode | nvarchar | YES | 5 | NULL |
| outboundmileage | numeric | YES | NULL | 6 |
| availabilitycode | nvarchar | YES | 5 | NULL |
| DisabledInd | nchar | YES | 1 | NULL |
| NoFullFareAdults | int | YES | NULL | 10 |
| NoDiscFareAdults | int | YES | NULL | 10 |
| NoFullFareChildren | int | YES | NULL | 10 |
| NoDiscFareChildren | int | YES | NULL | 10 |
| DateCreated | datetime | YES | NULL | NULL |
| DateUpdated | datetime | YES | NULL | NULL |
| FareId | int | YES | NULL | 10 |
| PromoCode | nvarchar | YES | 30 | NULL |
| FullAdultFare | numeric | YES | NULL | 6 |
| DiscAdultFare1 | numeric | YES | NULL | 6 |
| DiscAdultFare2 | numeric | YES | NULL | 6 |
| DiscAdultFare3 | numeric | YES | NULL | 6 |
| FullChildFare | numeric | YES | NULL | 6 |
| DiscChildFare1 | numeric | YES | NULL | 6 |
| DiscChildFare2 | numeric | YES | NULL | 6 |
| DiscChildFare3 | numeric | YES | NULL | 6 |
| NoAdultsFullFare | int | YES | NULL | 10 |
| NoAdultsDiscFare1 | int | YES | NULL | 10 |
| NoAdultsDiscFare2 | int | YES | NULL | 10 |
| NoAdultsDiscFare3 | int | YES | NULL | 10 |
| NoChildFullFare | int | YES | NULL | 10 |
| NoChildDiscFare1 | int | YES | NULL | 10 |
| NoChildDiscFare2 | int | YES | NULL | 10 |
| NoChildDiscFare3 | int | YES | NULL | 10 |
| NoRailcard1 | int | YES | NULL | 10 |
| Railcard2 | nvarchar | YES | 5 | NULL |
| NoRailcard2 | int | YES | NULL | 10 |
| Railcard3 | nvarchar | YES | 5 | NULL |
| NoRailcard3 | int | YES | NULL | 10 |
| NoGroupTicketsFullFare | int | YES | NULL | 10 |
| NoGroupTicketsDiscFare | int | YES | NULL | 10 |
| FullGroupFare | numeric | YES | NULL | 6 |
| DiscGroupFare | numeric | YES | NULL | 6 |
| Railcard2Desc | nvarchar | YES | 50 | NULL |
| Railcard3Desc | nvarchar | YES | 50 | NULL |
| FareSettingTOCDesc | nvarchar | YES | 50 | NULL |
| AvailabilityCodeDesc | nvarchar | YES | 50 | NULL |
| CreatedDateETL | datetime | YES | NULL | NULL |
| LastModifiedDateETL | datetime | YES | NULL | NULL |
| ProcessedInd | bit | YES | NULL | NULL |
| DataImportDetailID | int | YES | NULL | 10 |

# Table Mapping

This section describes how the data stored on tables defined in section 4 will populate Staging.STG\_Transaction Table. Colours below represents actions that we’ll have to perform on the current table.

|  |  |
| --- | --- |
|  | To be deleted |
|  | New column |
|  | Shall we delete it? |

|  |  |  |  |
| --- | --- | --- | --- |
| **Staging STG\_Transaction** | **Data Source** | | |
| **COLUMN\_NAME** | **TABLE\_NAME** | **COLUMN\_NAME** | **Comments** |
| SalesTransactionID | TOCPLUS\_Transaction | TOCTransactionID |  |
| Name |  |  | To be deleted |
| Description |  |  | To be deleted |
| CreatedDate | now() |  | when the row was inserted |
| CreatedBy | SP\_PARAMS |  | who inserted that row |
| LastModifiedDate | now() |  | when the row was updated |
| LastModifiedBy | SP\_PARAMS |  | who modified that rows |
| ArchivedInd | NOT IN USE |  | To be deleted |
| SourceCreatedDate | TOCPLUS\_Transaction | DateCreated |  |
| SourceModifiedDate | TOCPLUS\_Transaction | DateUpdated |  |
| SalesTransactionDate | TOCPLUS\_Transaction | transactiondate |  |
| SalesAmountTotal | TOCPLUS\_Transaction | totalcostofallpurchases |  |
| LoyaltyReference | TOCPLUS\_Nectar  TOCPLUS\_VAFlyerTravel | Nectarcardnumber  TOCVAFlyerTransID |  |
| RetailChannelID |  |  | To be deleted |
| LocationID |  |  | To be deleted |
| CustomerID | Staging.STG\_KeyMapping | CustomerID | TOCPLUS\_Transaction .tcscustomerid will match with a CustomerID |
| IndividualID |  |  | To be deleted |
| ExtReference | TOCPLUS\_Transaction | tcstransactionid |  |
| InformationSourceID | REFERENCE. InformationSource | InformationSourceID | VT |
| BookingReference |  |  | To be deleted |
| FulfilmentMethodID | Reference | FulfilmentMethod | TOCPLUS\_Transaction. Originatingsystemtype will be inserted on Reference.FulfilmentMethod table and the id will be used here. |
| NumberofAdults | TOCPLUS\_Journey | totaladults |  |
| NumberofChildren | TOCPLUS\_Journey | totalchildren |  |
| FulfilmentDate | TOCPLUS\_Transaction | DateCreated |  |
| SuperSalesInd |  |  | To be deleted |
| SalesAmountNotRail | TBD |  | TBC |
| SalesAmountRail | TBD |  | TBC |
| BookingReferenceLong | TOCPLUS\_Journey | tcsbookingid | TBC |
| BookingSourceCd |  |  | TBC |
| LoyaltySchemeName |  |  | To be deleted |
| LoyaltyProgrammeTypeID | Reference | LoyaltyProgrammeType | VFC/NECTAR |
| SalesTransactionNumber | TOCPLUS\_Transaction | TOCTransactionID |  |
| BusinessOrLeisure | TOCPLUS\_Transaction | businessorleisure | Possible new column -TBC |
| RetailerCode | TOCPLUS\_Transaction | retailercode | Possible new column -TBC |
| TotalNoOfAllPurchases | TOCPLUS\_Transaction | totalnoofallpurchases | Possible new column -TBC |
| InternationalFlag | TOCPLUS\_Transaction | internationalflag | Possible new column -TBC |
| HotelBookingCost | TOCPLUS\_Transaction | hotelbookingcost | Possible new column -TBC |
| PaymentType | TOCPLUS\_Transaction | paymenttype | Possible new column -TBC |
| CardType | TOCPLUS\_Transaction | cardtype | Possible new column -TBC |
| VoucherUsed | TOCPLUS\_Transaction | voucherused | Possible new column -TBC |
| CorporateOrLeisure | TOCPLUS\_Transaction | corporateorleisure | Possible new column -TBC |
| OperatingSystem | TOCPLUS\_Transaction | operatingsystem | Possible new column -TBC |
| MobileDevice | TOCPLUS\_Transaction | mobiledevice | Possible new column -TBC |
| PaymentTypeDesc | TOCPLUS\_Transaction | PaymentTypeDesc | Possible new column -TBC |

**END**