Virgin Trains West Coast – Single Customer View (SCV)

ToC (Train Operating Company) Plus (+) Customer Feed File

Commercial in confidence

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## **Document** **Management**

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| **Supporting Documents** | | |
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| Merkle VTWC Technical Design | Technical Specification | [Click here](https://teams.microsoft.com/_#/vsd/viewer/teams/https%3A~2F~2Fmerkleinc.sharepoint.com~2Fsites~2FVirginTrainsWestCoast-CRMProject~2FShared%20Documents~2FGeneral~2FDevelopment%20Documentation~2FDesign%20Documentation~2FTechnical%20Overview~2FVTWC%20-Process%20Overview%20v0.1.vsd?thread) |
| Customer ToC+ VTWC | Contact matching, merging and cleasning specification |  |

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| --- | --- | --- |
| **Glossary of Terms** | | |
| **Term Name** | **Description** | **Acronym, Synonyms** |
| SCV | Single Customer View | SCV |
| Customer | A person who has registered with VTWC resulting in a record being created in Tracs. This record does not require the person to have made a purchase |  |
| Prospect | A person who has interacted with a VTWC system or is a prospect who VTWC wishes to communicate with. Prospects are linked to customers but held separately in the Single Customer View (SCV) |  |
| Guest Customer | A guest customer is a customer and is treated the same way, other than a flag indicating that the guest customer has been captured as a guest | Customer |
| TVM | Records or information that has been captured using a Train Vending Machine (TVM). | TVM |

## Document Purpose

This document provides detailed instructions on how the ToC\_Customer feed file is processed by the system, the data transformation rules that are applied and functional database object that are utilised.

## Overview

The main source of information ingested into the VTWC solution is provided by the Trainlines booking engine, ToC. ToC (Train Operating Company) provides several feed files on a daily basis which all inter-depend on each other by a relationship defined on a database (primary/foreign) key.

This document intends to detail the Customer feed file only.

This document should be used in conjunction with other ToC feed files documents, all of which are referenced in the Master ToC feed documentation.

## Process

## High Level Steps

The following provides a high level process flow of the main processes that are applied to the Customer feed file;

|  |  |
| --- | --- |
| **No.** | **Steps** |
| 001 | Log processing start time. |
| 002 | Log operation status and data related statistics. |
| 003 | Update the possible matching variables and report where matching variables are not present. |
| 004 | Identify existing customers with no changes and set to ‘Processed’ as these can be skipped. |
| 005 | Set processing variables. |
| 006 | Identify all eligible records for processing. |
| 007 | Validate whether the TSCCustomerID has been received before. |
| 009 | Where TSCCustomer has not been received before, match inbound customer data on mobile, email and Namadd. |
| 010 | Update ElectronicAddress table where mobile, email or Namad is different to the primary mobile, email Namad values for auditing. |
| 011 | Create new customer or prospect record if no match is found. |
| 012 | Update ElectronicAddress with new customerid. |
| 013 | Populate subscription preference table with channel and subscription information. |
| 014 | If customer has changed mobile, email or namadd information then insert new information in the ElectronicAddress table. |
| 015 | Log processing end time. |
| 016 | Log operation status and data related statistics such as updates. |

## Functional Overview

The following information provide functional steps that update the customer information.

|  |  |  |
| --- | --- | --- |
| **No.** | **Database Object** | **Steps** |
| 001 | [PreProcessing].[CBE\_Customers]  [LogTiming\_Record] | Log procedure execution start time |
| 002 | [PreProcessing].[CBE\_Customers]  [DataImportDetail\_Update] | Log operational status and records counts (imported, success and error) |
| 003 | [PreProcessing].[ToC\_Customers] | 1. Update package variables for @addresstypeidemail   or @addresstypeidmobile or @NamadkeytypdID  with AddressTypeReference   1. If there is no @addresstypeidemail   or @addresstypeidmobile or NomadkeytypdID then insert error into log table stating  'No or invalid @addresstypeidemail or @addresstypeidmobile; @dataimportdetailid = ' + ISNULL(CAST(@dataimportdetailid AS NVARCHAR(256)),'NULL') |
| 004 | [PreProcessing].[ToC\_Customers] |  |
| 005 | [Staging].[STG\_Customer\_Add]  [Staging].[STG\_Address\_Upsert] | 1. Set the following variables;   @informationsourceid  @addresstypeidemail  @addresstypeidmobile  @addresstypeidNamad  @defaultoptincorporate  @defaultoptinleisure  @subscriptionchanneltypeidleisure  @subscriptionchanneltypeidcorp   1. If any of the above reference variables are null, insert log message into log table with the relevant userid, logsource, log message, ‘ERROR’ and ‘Invalid Lookup’ |
| 006 | Pulls all data from pre-processing table for those records that are eligible for processing.  ProcessingID = the days processing id and TCScustomer id is not null |
| 007 | TSCCustomer ID is matched to the KeyMapping table to identify whether the database has received that record before based on TCSCustomerID (Source ID) |
| 008 | 1. If the record has not been received before (based on TCSCustomerID) the process will match the incoming mobile, email or namad key to the ElectronicAddress table [address] field to return a CustomerID (ensuring all values are valid by referencing the Parsed fields)  * Only return the primary mobile value if customerID matches.  1. Match inbound prospect to ElectronicAddress table on mobile, email or namad key. This step should not be performed on customerID because the inbound data is a prospect   (prospects are kept separate from customers and the key\_mapping manages the link between the two) |
| 009 | Where TSCCustomerID matches, update the following columns;  Saluation = title  Firstname = forename  Surname = surname |
| 010 | Update ElectronicAddress table where mobile, email or Namad is different to the primary mobile, email Namad values for auditing. |
| 011 | 1. Where the inbound record does not match to an existing record, the process will insert a new record in the STG\_Customer table 2. Insert records into ElectronicMapping table |
| 012 | [Staging].  [STG\_CustomerSubcriptionPreference]  [Staging].  [STG\_CustomerSubcriptionPreference\_update] | Insert preferences information into the different reference subscription types.     1. Populate Subscription Type information in the reference.Subscriptiontypes table 2. Populate Channel Types information in the reference.Channeltypes table 3. Create relationship using subscription and channel types and insert the results into the reference.SubscriptionChannelType 4. For each of the optin and optouts for each of the subscription channel types that are supplied via the ToC pre-processing tables, the process stores the subscriptions in the table; [Staging].[STG\_CustomerSubcriptionPreference] |
| 013 | [PreProcessing].[ToC\_Customers] | If the email address, mobile number of address has changed, a log of the new value must be added to the STG\_ElectronicAddress table |
| 014 | [PreProcessing].[ToC\_Customers]  [DataImportDetail\_Update] | Log operational status and records counts (imported, success and error) |
| 015 | [PreProcessing].[CBE\_Customers]  [LogTiming\_Record] | Log procedure execution start time |

## Table Mappings and Business Rules

|  |  |  |
| --- | --- | --- |
| Feed Details | | |
| Feed ID/#: | 43 | Delimited |
| Feed Name | Customer | | |
| Feed Source | TOC+ | LF |
| Frequency | Daily | Header |
| Input/Output | Input | Yes |
| Output Recipient | Merkle | Other |
| CDI Processing | No | Client SFTP |
| Update Critical | No | \data |
| Incremental / Full Refresh | Incremental | Y |
| Physical File Naming Convention | VT\_MKT\_YYYYMMDDHHMMSS\_Customers.csv | No |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Inbound Field\_Name** | **[PreProcessing].[TOC\_Customer] Field Name** | **Field\_Data\_type** | **Length** | **Staging** | **Business Rules** | Update |
|  | [TOCCustomerID] [int] IDENTITY(1,1) NOT FOR REPLICATION NOT NULL, | bigint |  |  |  |  |
| CMDCustomerID | [CMDCustomerID] [bigint] NULL, | bigint |  |  |  | 1 |
| TCScustomerID | [TCScustomerID] [bigint] NULL, | nvarchar | 4 | [Staging].[STG\_Customer].TSCCustomerID |  |  |
| regretailercode | [regretailercode] [nvarchar](4) NULL, | datetime |  |  | =VT | 1 |
| firstregdate | [firstregdate] [datetime] NULL, | nchar |  | [Staging].[STG\_Customer].[SourceCreatedDate] | This will be first ever registration date for all data loaded into the CRM database. For all records loaded for the Customer including those where a match and merge has occurred  The first registration date will be the earliest date even if the Customer record exists and already has a first registered date. If the updating record has an earlier first registred date the earlier data should be used | 1 |
| donotemail | [donotemail] [nchar](1) NULL, | nchar | 1 | [Staging].[STG\_CustomerSubscriptionPreference] | Y =optout  Channle specific permissions take precendence over MyAccount (retailer) permissions | 1 |
| donotmail | [donotmail] [nchar](1) NULL, | nchar | 1 | [Staging].[STG\_CustomerSubscriptionPreference] | Y =optout  Channle specific permissions take precendence over MyAccount (retailer) permissions | 1 |
| donotsms | [donotsms] [nchar](1) NULL, | nchar | 1 | [Staging].[STG\_CustomerSubscriptionPreference] | Y =optout  Channle specific permissions take precendence over MyAccount (retailer) permissions | 1 |
| thirdpartyoptout | [thirdpartyoptout] [nchar](1) NULL, | nvarchar | 1 | [Staging].[STG\_CustomerSubscriptionPreference] | Y =optout  Channle specific permissions take precendence over MyAccount (retailer) permissions | 1 |
| emailaddress | [emailaddress] [nvarchar](100) NULL, | nvarchar | 100 | [Staging].STG\_ElectronicAddress.[address] | This field is populated using [ParsedAddressEmail] |  |
| dateofbirth | [dateofbirth] [nvarchar](25) NULL, | nvarchar | 25 | [Staging].[STG\_Customer].DateOfBirth | Create new field | 1 |
| companyname | [companyname] [nvarchar](100) NULL, | nvarchar | 100 | [Staging].[STG\_Address].[CompanyName] | Create new field | 1 |
| addressline1 | [addressline1] [nvarchar](100) NULL, | nvarchar | 100 | [Staging].[STG\_Address].[AddressLine1] |  | 1 |
| addressline2 | [addressline2] [nvarchar](100) NULL, | nvarchar | 100 | [Staging].[STG\_Address].[AddressLine2] |  | 1 |
| addressline3 | [addressline3] [nvarchar](100) NULL, | nvarchar | 100 | [Staging].[STG\_Address].[AddressLine3] |  | 1 |
| addressline4 | [addressline4] [nvarchar](100) NULL, | nvarchar | 100 | [Staging].[STG\_Address].[AddressLine4] |  | 1 |
| addressline5 | [addressline5] [nvarchar](100) NULL, | nvarchar | 100 | [Staging].[STG\_Address].[AddressLine5] |  | 1 |
| postcode | [postcode] [nvarchar](10) NULL, | nvarchar | 10 | [Staging].[STG\_Address].[PostalCode] |  | 1 |
| country | [country] [nvarchar](50) NULL, | nvarchar | 50 | [Staging].[STG\_Address].[CountryID] |  |  |
| mosaicgpdesc | [mosaicgpdesc] [nvarchar](50) NULL, | nvarchar | 50 |  | Do not use |  |
| mosaictypedesc | [mosaictypedesc] [nvarchar](50) NULL, | nvarchar | 50 |  | Do not use | 1 |
| dayphoneno | [dayphoneno] [nvarchar](25) NULL, | nvarchar | 25 | [Staging].[STG\_ElectronicAddress].[address] | This field is populated with [ParsedAddressMobile].   If not validated as a mobile number (07), the number is rejected | 1 |
| eveningphoneno | [eveningphoneno] [nvarchar](25) NULL, | nvarchar | 25 | [Staging].[STG\_ElectronicAddress].[address] | This field is populated with [ParsedAddressMobile].   If not validated as a mobile number (07), the number is rejected | 1 |
| title | [title] [nvarchar](10) NULL, | nvarchar | 10 | [Staging].[STG\_Customer].[Salutation] | 'Dear Customer' = Guest | 1 |
| forename | [forename] [nvarchar](50) NULL, | nvarchar | 50 | [Staging].[STG\_Customer].[FirstName] |  | 1 |
| surname | [surname] [nvarchar](50) NULL, | nvarchar | 50 | [Staging].[STG\_Customer].[LastName] |  | 1 |
| homestation | [homestation] [nvarchar](5) NULL, | nvarchar | 5 | [Staging].[STG\_Customer].[NearestStation] | create new field |  |
| corpreference | [corpreference] [nvarchar](50) NULL, | nvarchar | 50 |  | Do not use |  |
| adminrole | [adminrole] [nvarchar](3) NULL, | nvarchar | 3 |  | Do not use |  |
| bookerrole | [bookerrole] [nvarchar](3) NULL, | nvarchar | 3 |  | Do not use as this relates to corporate information |  |
| accountclosed | [accountclosed] [nvarchar](3) NULL, | datetime | 3 |  | Do not use | 1 |
| custcmddateupdated | [custcmddateupdated] [datetime] NULL, | datetime |  |  | Do not use |  |
| regcmddateupdated | [regcmddateupdated] [datetime] NULL, | nvarchar |  | [Staging].[STG\_Customer].[SourceModifiedDate] |  |  |
| trusted | [trusted] [nvarchar](3) NULL, | float | 3 |  | Do not use as relates to fraud protection |  |
| lifetimevalue | [lifetimevalue] [float] NULL, | datetime |  |  | Do not use (as will be caludated through the production build) | 1 |
| firstjourneycompletedate | [firstjourneycompletedate] [datetime] NULL, | nvarchar |  |  | Do not use (as is caludated trough te production build) |  |
| affiliatecode | [affiliatecode] [nvarchar](25) NULL, | datetime | 25 |  | Do not use | 0 |
| firsttransdate | [firsttransdate] [datetime] NULL, | datetime |  | [staging].[STG\_Customer].[DateFirstPurchase] | Similar to First Registered date, use the earliest date across all associated records | 1 |
| lasttransdate | [lasttransdate] [datetime] NULL, | nvarchar |  | [staging].[STG\_Customer].[DateLastPurchase] | The most recent (oldest date) should be used  For updating records populate only if the date is more recent than the already populated date |  |
| corporatetype | [corporatetype] [nvarchar](25) NULL, | int | 25 |  | Do not use |  |
| managedgroupid | [managedgroupid] [int] NULL, | int |  |  | Do not use | 1 |
| vtsegment | [vtsegment] [int] NULL, | nvarchar |  | [staging].[STG\_Customer].[VTSegment] | Create new field |  |
| accountstatus | [accountstatus] [nvarchar](25) NULL, | nvarchar | 25 | [staging].[STG\_Customer].[AcccountStatus] | Create new field  The retailer marketing optin flag refers to the status on the My Account. As this does not include email unsubscribes it may not reflect the customer’s current preference.  RetailerMarketingOptin = Y means customer opted in to marketing on My Account. N means they are opted out. |  |
| retailermarketingoptin | [retailermarketingoptin] [nvarchar](3) NULL, | nvarchar | 3 | [Staging].[STG\_CustomerSubscriptionPreference] |  | 1 |
| thirdpartymarketingoptin | [thirdpartymarketingoptin] [nvarchar](3) NULL, | datetime | 3 | [Staging].[STG\_CustomerSubscriptionPreference] |  |  |
| CustCMDDateCreated | [CustCMDDateCreated] [datetime] NULL, | nvarchar |  |  | Do not use | 0 |
| RegChannel | [RegChannel] [nvarchar](20) NULL, | nvarchar | 20 | [Staging].[STG\_Customer].RegChannel | New field | 0 |
| RegOriginatingSystemType | [RegOriginatingSystemType] [nvarchar](20) NULL, | datetime | 20 | [Staging].[STG\_Customer].RegOrginatingSystemType] | New field | 1 |
| ExperianDateUpdated | [ExperianDateUpdated] [datetime] NULL, | nvarchar |  |  | Do not use |  |
| Salutation | [Salutation] [nvarchar](60) NULL, | nvarchar | 60 |  | Do not use | 1 |
| MobileTelephoneNo | [MobileTelephoneNo] [nvarchar](25) NULL, | datetime | 25 | [Staging].[STG\_ElectronicAddress].[address] |  | 0 |
| FirstCallTranDate | [FirstCallTranDate] [datetime] NULL, | datetime |  | [Staging].[STG\_Customer].[FirstCallTranDate] | Create new field | 0 |
| FirstIntTranDate | [FirstIntTranDate] [datetime] NULL, | datetime |  | [Staging].[STG\_Customer].[FirstIntTranDate] | Create new field  Populate from the earliest transaction associated with the customer | 0 |
| FirstMobAppTranDate | [FirstMobAppTranDate] [datetime] NULL, | datetime |  | [Staging].[STG\_Customer].[FirstMobAppTranDate] | Create new field  Populate from the earliest mobile app transaction associated with the customer | 0 |
| FirstMobWebTranDate | [FirstMobWebTranDate] [datetime] NULL, | nvarchar |  | [Staging].[STG\_Customer].[FirstMobWebTranDate] | Create new field  Populate from the earliest mobile web transaction associated with the customer | 1 |
| ExperianHouseholdIncome | [ExperianHouseholdIncome] [nvarchar](20) NULL, | nvarchar | 20 | [Staging].[STG\_Customer].[ExperianHouseholdIncome] | Create new field | 1 |
| ExperianAgeBand | [ExperianAgeBand] [nvarchar](10) NULL, | nchar | 10 | [Staging].[STG\_Customer].[ExperianAgeBand] | Create new field | 1 |
| DftOptInFlag | [DftOptInFlag] [nchar](1) NULL, |  | 1 | [Staging].[STG\_CustomerSubscriptionPreference] | Department For Transport |  |
|  | [ParsedAddressEmail] [nvarchar](100) NULL, |  |  | Fields leveraged for pre-processing |  |  |
|  | [ParsedEmailInd] [nchar](1) NULL, |  |  |  |  |
|  | [ParsedEmailScore] [int] NULL, |  |  |  |  |
|  | [ParsedAddressMobile] [nvarchar](25) NULL, |  |  |  |  |
|  | [ParsedAddressNamadd] [nvarchar](25) NULL, |  |  |  |  |
|  | [ParsedMobileInd] [nchar](1) NULL, |  |  |  |  |
|  | [ParsedMobileScore] [int] NULL, |  |  |  |  |
|  | ParsedMobileInd1 |  |  |  |  |
|  | ParsedMobileScore1 |  |  |  |  |
|  | ParsedAddressMobile2 |  |  |  |  |
|  | ParsedMobileInd2 |  |  |  |  |
|  | ParsedMobileScore2 |  |  |  |  |
|  | [ProfanityInd] [bit] NULL, |  |  |  |  |
|  | [CreatedDateETL] [datetime] NULL, |  |  |  |  |
|  | [LastModifiedDateETL] [datetime] NULL, |  |  |  |  |
|  | [ProcessedInd] [bit] NULL, |  |  |  |  |
|  | [DataImportDetailID] [int] NULL, |  |  |  |  |
|  | [LastModifiedExtractNumber] [int] NULL, |  |  |  |  |