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Virgin Trains West Coast RFV Design specification

RFV Segmentation Document

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Contents

1. Document Management

Version Control			
Version	**Date**	**Author(s)**	**Sections Changed**
0.1	23/07/2018	Steve Forster	Initial draft document
0.2	03/08/2018	Steve Forster	Updated after review
0.3	03/08/2018	Steve Forster	3.1 RFV Segmentation - updated after review with Alex Smith of Virgin Trains

Distribution List		
Organisation	**Name**	**Role**
Merkle	Mark Jones	Client Lead / Project Manager
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Merkle	Juanjo Diaz	Technical consultant
Merkle	Steve Forster	Technical Solution Lead
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Merkle	James Moore	Technical Lead

2. Document Purpose

The purpose of this **RFV Design Document** is to define the scope of how the solution will process data for the RFV segmentation scheme.

The list of functional requirements documented in this design are covered below in the scoping section.

The process will be developed as an SSiS package to enable scheduling at different times depending on the scoring requirements.

The RFV calculation will be dependent on the staging for Sales Transactions to complete without error.

This document should be read in conjunction with the Technical Design document and the Business Requirements documents

2.1 In Document Scope

The following items are in scope for this document:

- Logic for RFV calculation for Customers
- Database changes required to implement the design

2.2 Out of Document Scope

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

- RFV Segmentation for Prospects;
- The design to process records through to pre-processing;
- The design to process records through to staging.
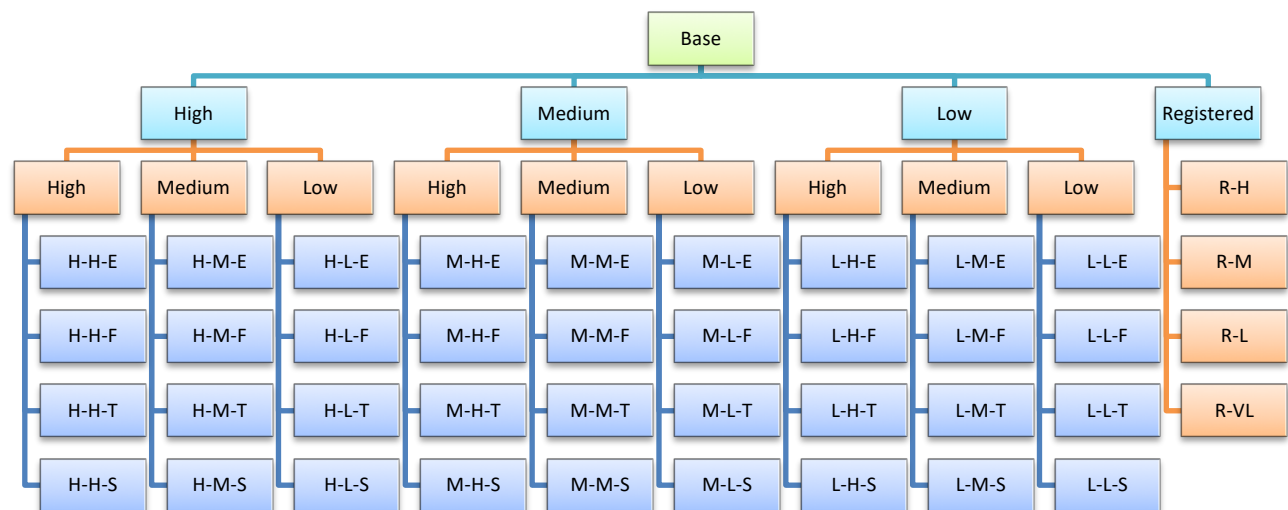
3. High Level Overview

3.1. RFV Segmentation

The RFV segmentation will be calculated for all Customers on a daily basis as part of the **[Production].[Customer_Refresh]** process.

The segmentation will calculate and store 3 component fields **[Recency]**, **[Frequency]** and **[Value]** to allow simpler targeting based on value or frequency.

The RFV score will be concatenated as a single field **[Recency]-[Value]-[Frequency]** e.g. 'H-M-E'.

Where a customer has registered, but has no transactions, concatenate **[Recency]-[Value]** e.g. 'R-L'.

```
                                         Base
            ┌──────────────┬──────────────┬──────────────┐
          High           Medium          Low         Registered
    ┌───────┬───────┐ ┌───────┬───────┐ ┌───────┬───────┐
  High   Medium  Low High  Medium Low High  Medium Low    R-H
  H-H-E  H-M-E  H-L-E M-H-E M-M-E M-L-E L-H-E L-M-E L-L-E R-M
  H-H-F  H-M-F  H-L-F M-H-F M-M-F M-L-F L-H-F L-M-F L-L-F R-L
  H-H-T  H-M-T  H-L-T M-H-T M-M-T M-L-T L-H-T L-M-T L-L-T R-VL
  H-H-S  H-M-S  H-L-S M-H-S M-M-S M-L-S L-H-S L-M-S L-L-S
```

3.2. Assumptions

Transactions for all Train Operating Companies (TOC) are to be considered for purchases and journeys in the calculation of RFV.

All ticket types are to be considered in the segmentation scheme.

Refunded purchases count towards recency in the segmentation.

Transactions older than 36 months will not be used in the calculation of the RFV segmentation.

3.3. Data

Recency and Value derivations will use the summary columns in **[Production].[Customer]** such as **[SalesTransaction12Mnth]** and **[SalesAmountRail12Mnth]**.

If the summary attributes on Customer are not applicable, transaction data can be calculated using the **[STG_Transaction]** table in CRM referencing the **[SalesTransactionDate]** to determine when the booking was placed. Where there are multiple transactions for a journey, use the latest transaction received, and ignore all transaction records that have an Archive_Ind='Y'.

3.4. Level Splits

RFV is split into 3 components, and each segment will be mutually exclusive, calculated top down.

Level 1 - Recency

Level-1 Code	Level-1 Segment	Definition
H	LIVE	**Active** Transacted in the last 12 months
M	LAPS	**Lapsed** Transacted 12-24 months ago
L	INAC	**Inactive** Transacted 24-36 months ago
R	REG	**Registered** not transacted (split by live, laps, inac)

Level 2 - Value

Level-2 Code	Level-2 Segment	Definition
H	VHV	**Very High Value** Purchase value > £1000, purchased in the last 12 months *OR* Not transacted, and has registered in last 12 months
M	HV	**Moderately High Value** Purchase value between £250 and £1000, purchased in the last 12 months *OR* Not transacted, and has registered in last 12-24 months
L	LV	**Low Value** Purchase value <= £250, purchased in the last 12 months *OR* Not transacted, and has registered more than 24-36 months ago
VL	VL	**Very Low Value** Not transacted, and has registered more 36 months ago

Level 3 - Frequency

Level-3 Code	Level-3 Segment	Definition
E	EST	**Established** Have made 11+ transactions in the last 12 months
F	FAM	**Familiar** Have made 5-10 transactions in the last 12 months
T	TEN	**Tentative** Have made 2-4 transactions in the last 12 months
S	SOL	**Solo** Have made 1 transaction in the last 12 months
R	REG	**Registered** Not transacted

3.5. Database Changes

Production Customer

The Customer table will be extended to include the following

Column	Data Type	Description
SalesTransaction24Mnth	int	Count of transactions in last 24 months
SalesTransaction36Mnth	int	Count of transactions in last 36 months
RFVsegmentRecency	char(1)	Recency (Level-1 Code)
RFVsegmentValue	char(1)	Value (Level-2 Code)
RFVsegmentFrequency	char(1)	Frequency (Level-3 Code)
RFV	varchar(5)	Segmentation Value e.g. 'H-M-E'

[Production].[Customer_RFV_Update]
The stored procedure logic will be updated to use this new segmentation scheme, and populate the **[RFV]** score on **[Production].[Customer]**.

[Production].[customer_rfv_history_production]
The stored procedure logic will be updated to use the new field **[RFV]** instead of **[SegmentTierId]**.

END