



# **Loss Prevention**

## **User Guide**

**LS Retail NAV 2013 (7.00.01)**

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# 1 Introduction

The purpose of this document is to give a quick overview of Loss Prevention.

The principle objective of loss prevention is to preserve profit by reducing losses to the company. Shrinkage is estimated at an average of 1,45% or more on the annual sales turnover in retail and therefore proper measures need to be taken.

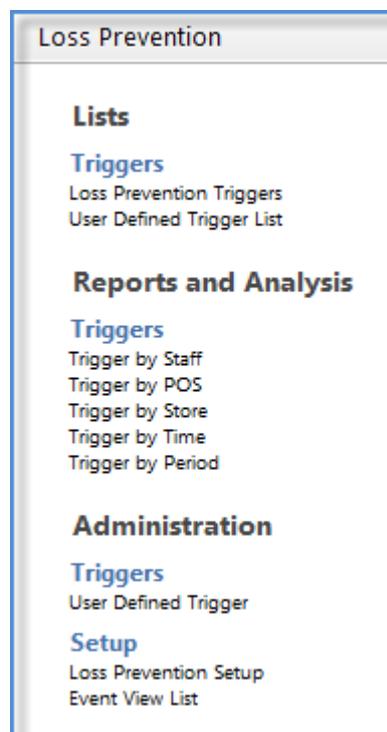
In the first round, the LS Retail NAV Loss Prevention functionality includes 18 predefined standard triggers that can be turned on and off at convenience. These include for instance cashier behavior analysis and are shown by alerts and/or reports. In addition, users can define triggers that target their special needs.

## 1.1 Functional Overview

The purpose of the Loss Prevention module for LS Retail NAV is to provide tools to discover unusual behavior and analyze it.

LS Retail uses the various transactions generated by the POS as the basis for this functionality. Transaction data includes a number of interesting parameters such as: Refunds to cash, refunds after closing hours, refund from credit card A to credit card B, discounts over a given amount and sales outside opening hours. These parameters act as triggers to create Events. Events can be analyzed by Store, POS, Staff and Date & Time. Events can also be escalated to incidents. Incidents are created if events pass a pre-defined threshold.

The triggers, on which the Loss Prevention is based, serve as tools to define Events and they are all based on transactional data from the POS.



The Transaction register is the basis for all the data used: transactions, sales lines and payment lines.

Counters are kept for each combination of Store/POS Terminal in the system. If data is missing from one Store or one POS for a period of time, the system updates it with the latest information coming in and updates the events based on that information and also averages and/or other modes of calculations. It will go as far back in time as needed. If a POS register, for instance, is offline for two days, the system will simply continue the transaction number sequence for this particular POS the next time it is online.

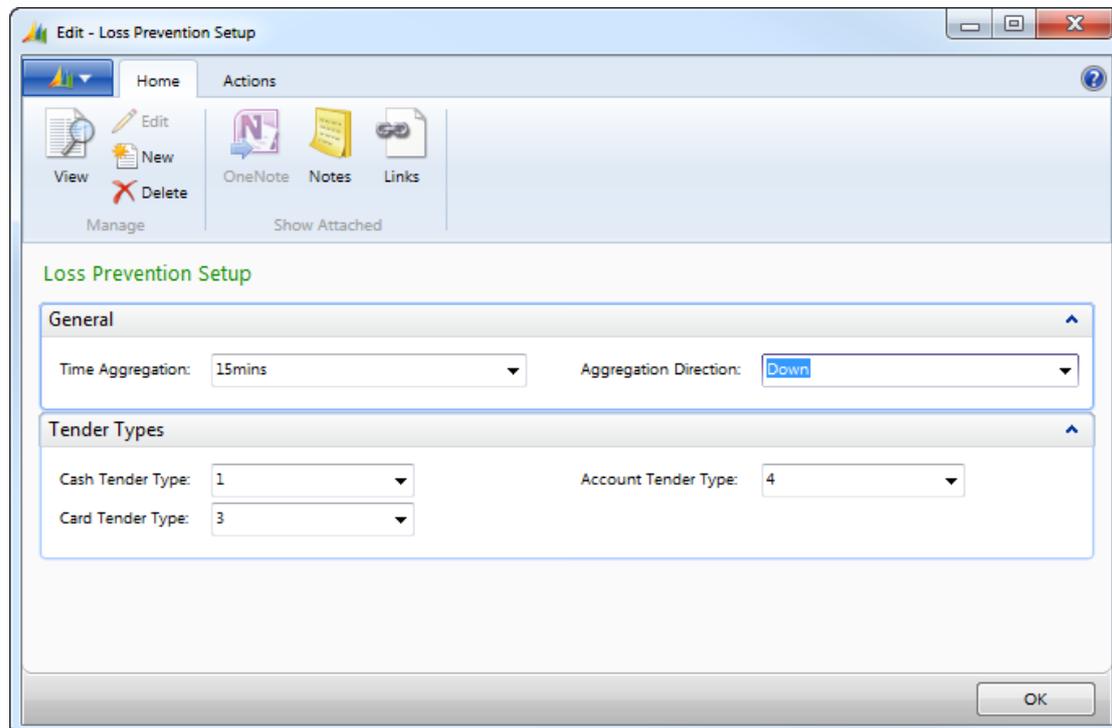
## 2 Loss Prevention Setup

Loss Prevention setup must exist for the Loss Prevention functionality to work. Triggers are already defined as a part of the default data, but tender type setup from the Loss Prevention setup is used for some of the triggers.

### 2.1 Loss Prevention Setup

The path for the **Loss Prevention Setup** is at:

**LS Retail – Loss Prevention, Setup, Loss Prevention Setup**



**Edit - Loss Prevention Setup**

Home Actions

View Edit New Delete Manage

OneNote Notes Links Show Attached

**Loss Prevention Setup**

**General**

Time Aggregation: 15mins Aggregation Direction: Down

**Tender Types**

Cash Tender Type: 1 Account Tender Type: 4

Card Tender Type: 3

OK

#### 2.1.1 General tab

**Time Aggregation:** Statistics based on time units.

**Aggregation Direction.** If someone has set Time Aggregation, for instance, to 15 minutes, he/she would either take everything **Down** to the nearest 15 minutes, when **Down** is selected and similarly for **Up** or **Nearest**.

#### 2.1.2 Tender Type tab

Many triggers are based on tender types. The Tender Type tab gives you options for setting **Cash**, **Card** and **Account Tender Type**.

### 3 Triggers for Loss Prevention

#### 3.1 Loss Prevention Triggers

No.	Description	Revers.	Enabled
A	Refund Over x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B	Returns Outside Normal Hours	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C	Qty. Of Void Lines Within Trans E...	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D	Qty. Of No Sales	<input type="checkbox"/>	<input checked="" type="checkbox"/>
E	Refunds To Whole Numbers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F	Refund Without Receipt	<input type="checkbox"/>	<input checked="" type="checkbox"/>
G	Manual Entered Creditcard	<input type="checkbox"/>	<input checked="" type="checkbox"/>
H	Sales Outside Normal Hours	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
I	Manual Price Changes	<input type="checkbox"/>	<input checked="" type="checkbox"/>
J	Manual Discount Given	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
K	Credit Note Raised	<input type="checkbox"/>	<input checked="" type="checkbox"/>
L	Credit Note Cashed	<input type="checkbox"/>	<input checked="" type="checkbox"/>
M	All Transaction Containing Voids	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
N	Refunds Returned As Cash	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
O	Discount Greater x%	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P	Transactional Voids	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Q	Payment On Account	<input type="checkbox"/>	<input checked="" type="checkbox"/>
R	Round Figure Sales	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
S	Sales Less Than x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T	Sold Below Cost	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
U	Refund To Credit Card	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The Default Event Triggers are the following:

**A Refund Over x**

X is here the threshold amount to trigger the event. This is specified in the field **Key Value**. When x is 20, the system will create an event for all transactions with return a value that is higher than or equal to 20.

**B Returns Outside Normal Hours**

The system uses the Retail Calendar to find the Normal Opening Hours for the Store and create an Event if a return is done outside this period.

**C Qty. Of Void Lines Within Trans Exceeds x%**

If the number of voided lines is more than x% of the total number of lines the system will create an Event.

**D Qty. Of no Sales**

If Drawer is opened with no sale, an Event is created.

**E Refunds To Whole Numbers**

Set the Key Value to x. If the refund functionality refunds Cash in multiples of x the event is triggered. For example, when x is 10 an event is created for Cash refunds 10, 20 etc.

**F Refund Without Receipt**

The system creates this Event if refund is processed without specifying the original receipt.

**G Manual Entered Credit Card**

If a Credit Card number is manually entered, the system will create this Event.

**H Sales Outside Normal Hours**

The system uses the Retail Calendar to find the Opening Hours for the Store and if the sale is done outside the hours, an Event is created.

**I Manual Price Changes**

If a new price is specified by the staff, an Event is created.

**J Manual Discount Given**

If discount is manually entered as a percentage or as an amount, this Event is created.

**M All Transactions Containing Voids**

If a transaction contains a line that has been voided, this Event is created.

**N Refunds Returned as Cash**

If a refund transaction contains payment to customer with cash, this Event is created.

**O Discount Greater Than x%**

If the discount amount in one transaction is greater than x%, this Event is created. X is specified in the Key Value field.

**Q Payment on Account**

All Account Payment entries, both negative and positive, create this Event.

**R Round Figure Sales**

If nothing is specified in Key Value, the system will use 1 as the base for this check. If the total transaction amount is a whole number, the Event will be triggered. If 1000 is specified in the field Key Value, the system will trigger the Event if Total Transaction amount is like 1000 or 2000.

**S Sales Less Than x**

This Event will be created if Margin Percentage is less than x%, where x is specified in the Key field.

**T Sold Below Cost**

If Net Amount is lower than the Cost Amount, an Event will be created.

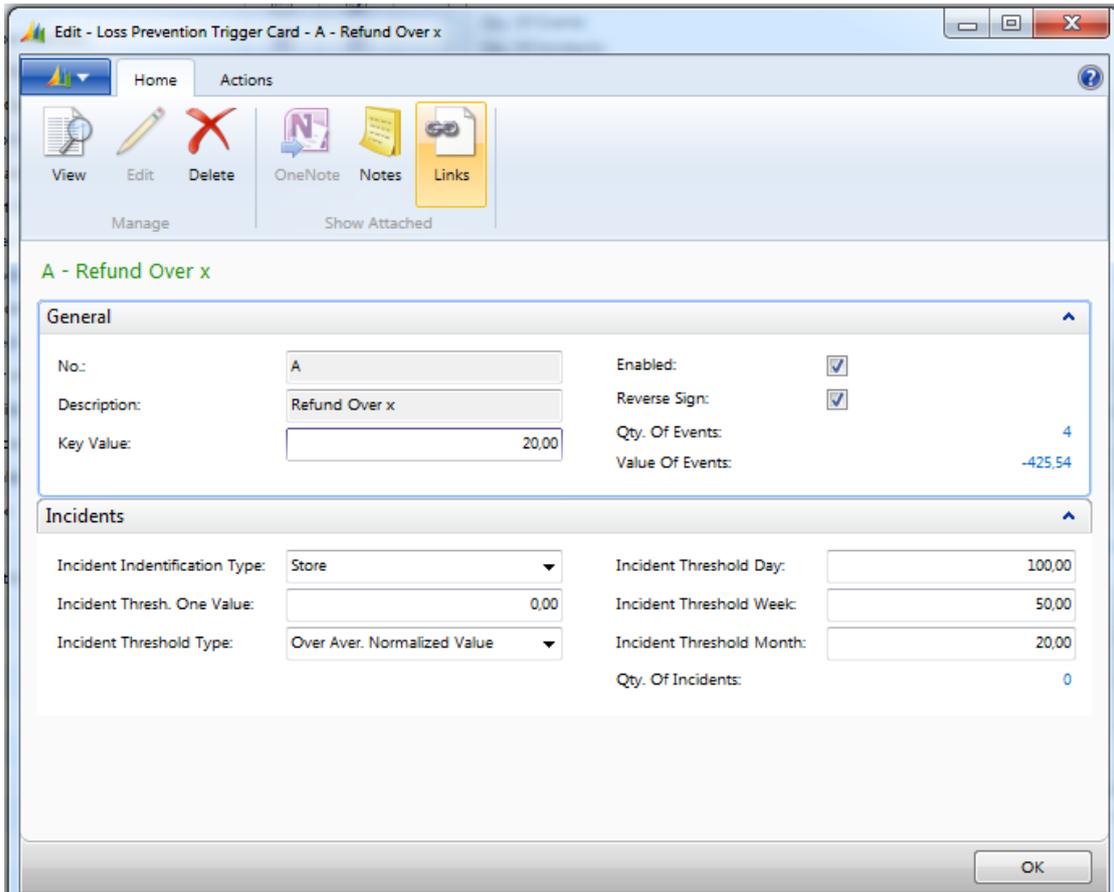
**U Refund to Credit Card**

If a payment is refunded to a credit card not used in the original transaction, an Event will be created.

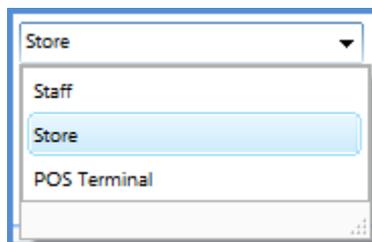
The user can create events from enabled triggers by pressing **Fraud Event Creation** under Actions.

The design of the system allows many events on the same transaction. If a refund has, for instance, triggered the **Refund Over x** and is also done outside normal hours it results in two events being triggered, the **Refund Over x** and **Returns Outside Normal Hours**. The normal hour information comes from the module Retail Calendar. It keeps track of the opening hours for the store, but it is also used for other purposes.

When events have been created, we will be able to view the events based on Staff, POS, Store, Time or Period. Besides creating events, incidents also get created, as already mentioned. If the sum of events or values of events are over a given value, the system will create an incident. In the corresponding card, some general information is registered:



The incident information and the incident can be viewed under the **Incident** tab.

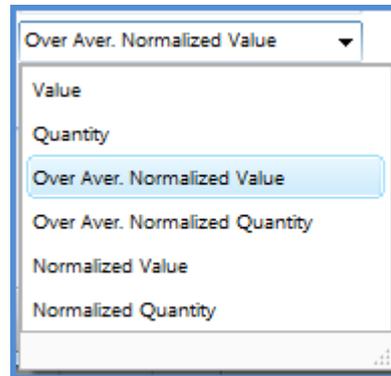


**Incident Identification:** Most often the **Incident Identification** will be **Staff**, but it can also be **Store** or **POS Terminal**.

**Incident Threshold One Value:** An example of **Incident Threshold One Value** is if the refund amount is especially high, for instance over 500 Euros, the incident is created right

away and directly. No other kind of criteria is needed. Value is always the basis in this case and one incident only is viewed each time.

**Incident Threshold Type:** If the **Incident Threshold One Value** applies to a certain incident, this setting is not used, since the **One Value** is already taking over other settings. The **Incident Threshold Type** can be based on **Value**, **Quantity**, **Over Average Normalized Value**, **Over Average Normalized Quantity**, **Normalized Value** and **Normalized Quantity**.



**Incident Threshold Type** is always the same for all periods, day, week and month.

If **Average Normalized Value** or the **Average Normalized Quantity** is x% over the average in the company, it passes the incident threshold, and similar for the other **Incident Threshold Types**.

The most common scenario is when one is looking for difference from average and defining a threshold to see when the difference from average passes what can be expected. The main measurements used are:

- Over Aver. Normalized Value
- Over Aver. Normalized Quantity
- Normalized Value
- Normalized Quantity

**Normalized Value** and **Normalized Quantity** measure the deviation from average. Then the deviation is compared against the total sales. There may be parameters that need to be adjusted, since it is not necessarily known beforehand where this deviation is exposed.

When the functionality measures the “over average normalized value/quantity” it is possible to compare certain deviations from the average of the same kind, giving added possibilities to detect real differences.

If average return is 0,5% at some store, a return of 2,5% would be five times the average for the store. If the limit set allows, for instance, three times the average return during a certain period, for instance a week, this incident would pass the limit.

An example of **Over Average Normalized Value**: We create events in the system, for instance, for 1% of the total transactions for the company. If we get over 100% over that average value an event will be triggered.

Incident Threshold Day:	<input type="text" value="100,00"/>
Incident Threshold Week:	<input type="text" value="50,00"/>
Incident Threshold Month:	<input type="text" value="20,00"/>

This is based on the average for the company. It might be considered the easiest way to specify an incident threshold.

Normalized value is in fact not 100% normalized but like a value of returns against the total value of transactions. For example, if we sell for 100.000 and get 500 Euros as return, it means that we are getting 0,5% of the total. The total value of transactions is always used in this case for comparison. When we define a trigger as payment method it is also compared to the total value of the transactions. Normalized value is not necessarily a theoretically correct value; it always compares the trigger value with the total transaction value.

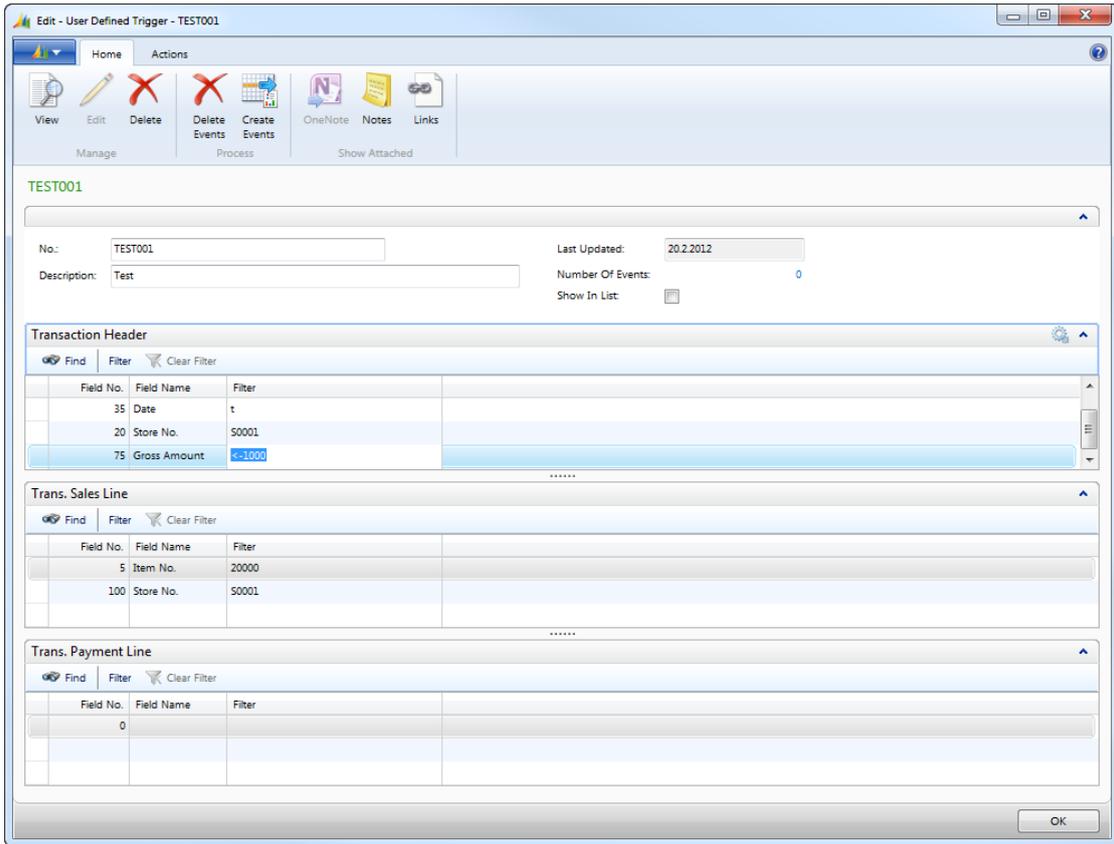
If we look at **Sales Outside Normal Hours**, for **Staff**, **Over Average Normalized Value**, the card under the **Trigger** button and on the tab **Incidents** the **Qty. of Incidents** is checked. Then an incident based on the staffing data is found. The **Threshold Value Type**, **Incident Threshold** and the **Incident Value** are shown in this context.

No.	Trigger No.	Transaction	Receipt No.	Staff No.	Store No.	POS Term.	Trans. Date	Trans. Time	Trans. Value	Card No.
857	H	40000027	0010001051	402	S0004	P0008	12.2.2001	09:08:39	-18.10	
583	H	30000029	0010001051	301	S0003	P0005	12.2.2001	09:30:39	-18.10	
753	H	30000030	0010001052	302	S0003	P0006	12.2.2001	09:34:25	-6.35	
962	H	40000028	0010001052	404	S0004	P0009	12.2.2001	09:35:06	-4.74	
343	H	20000023	0010001051	201	S0002	P0003	12.2.2001	09:51:33	-4.15	
584	H	30000031	0010001053	301	S0003	P0005	12.2.2001	10:05:52	-7.70	
804	H	40000029	0010001053	401	S0004	P0007	12.2.2001	10:14:12	-72.50	
344	H	20000024	0010001052	201	S0002	P0003	12.2.2001	10:32:34	-3.25	
505	H	30000025	0010001053	302	S0003	P0004	12.2.2001	10:54:06	-4.74	

All these triggers are created by the system. They are predefined and the user will not be able to change their configuration, except the key value of each trigger, filters on the **Transaction Headers**, **Transaction Sales Lines** and **Transaction Payment Lines**.

### 3.2 User Defined Trigger

Looking at the **User Defined Trigger**, there are some options to specify customized triggers. For instance special attention can be paid to the actions of the staff or on a certain POS. The issues checked might even be more specific. In each case a **User Defined Trigger** is specified. It is, for instance, possible to control a special item for period of time using and event in the **User Defined Trigger**.



**TEST001**

No.: TEST001      Last Updated: 20.2.2012  
 Description: Test      Number Of Events: 0  
 Show In List:

Field No.	Field Name	Filter
35	Date	t
20	Store No.	S0001
75	Gross Amount	<=1000

Field No.	Field Name	Filter
5	Item No.	20000
100	Store No.	S0001

Field No.	Field Name	Filter
0		

OK

Example:

Go to the **Transaction Sales Line** tab on the **User Defined Trigger** card.

Select **Item No.** in the drop-down list for the **Field No.** column. It is also possible to take a period of time from a certain Store, then the **Store No.** would be selected from the same list.

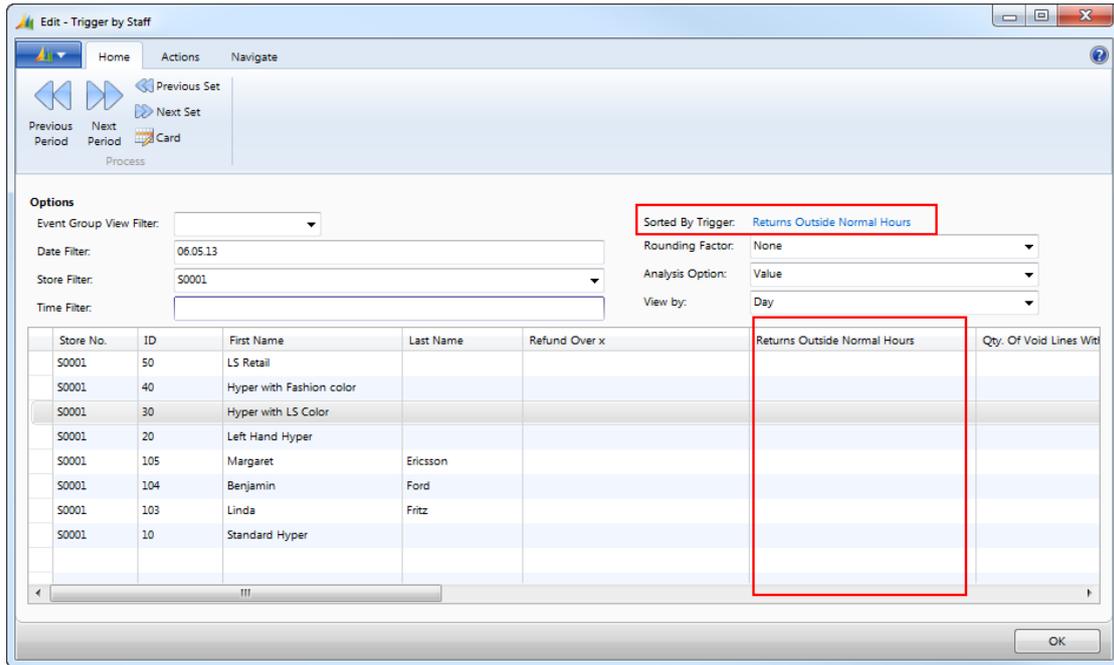
Then the **Create Event** button on the **User Defined Trigger** is pressed to get a list of the fraud events for the Item or the Store.

It is possible to combine the queries in many ways.

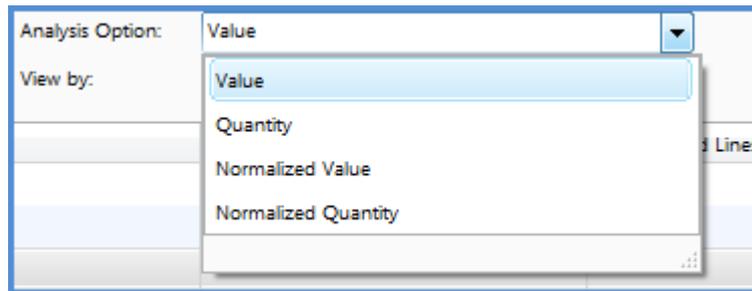
The **Fraud Event** list that is created allows one to take a look at each transaction in the list. This is linked in the same way as normal events.

The triggers can be based on several kinds of criteria, **Transaction Type**, **Staff ID**, **Time of Transaction**, **Store No.**, **Value**, **Payment type**, or even **Item Information**. For instance, if one is using **Time**, it is enough to enter a valid filter for **Time**.

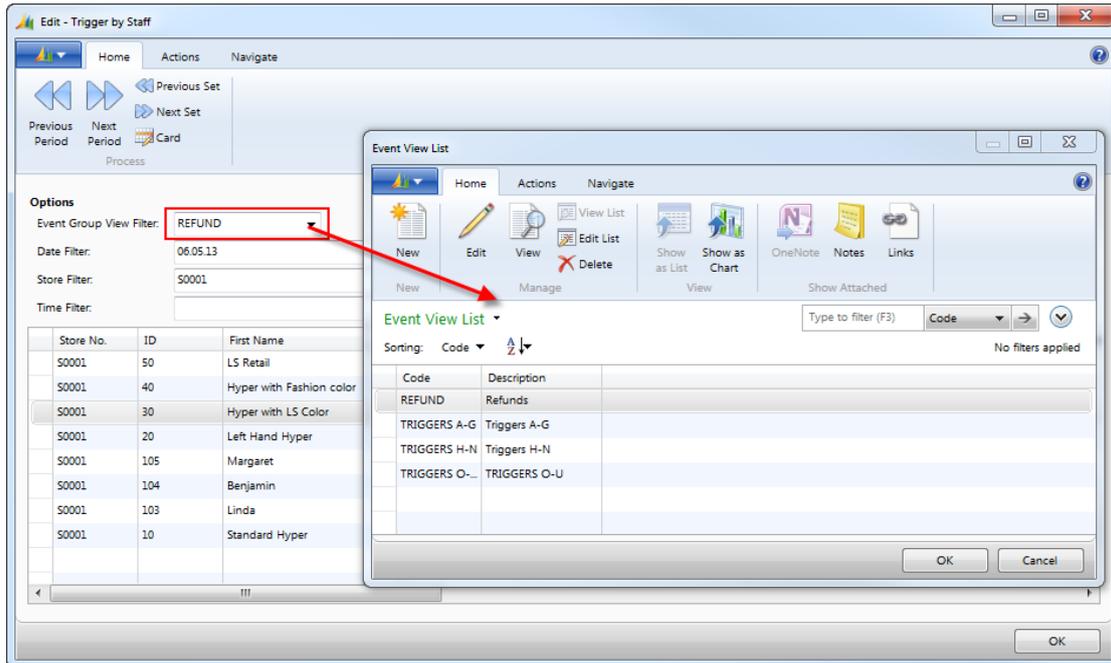
Then one is able to look at the data, for instance on the **Trigger by Staff** card:



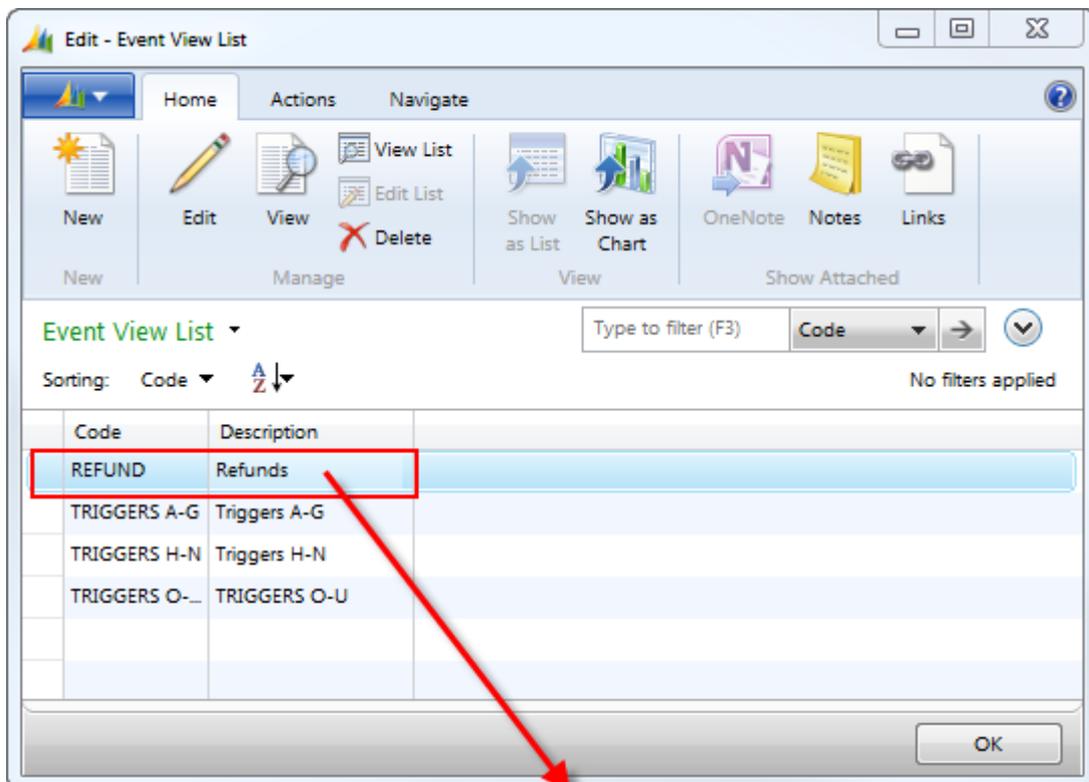
It is possible to have the information displayed based on **Value**, **Quantity**, **Normalized Value** and **Normalized Quantity**.

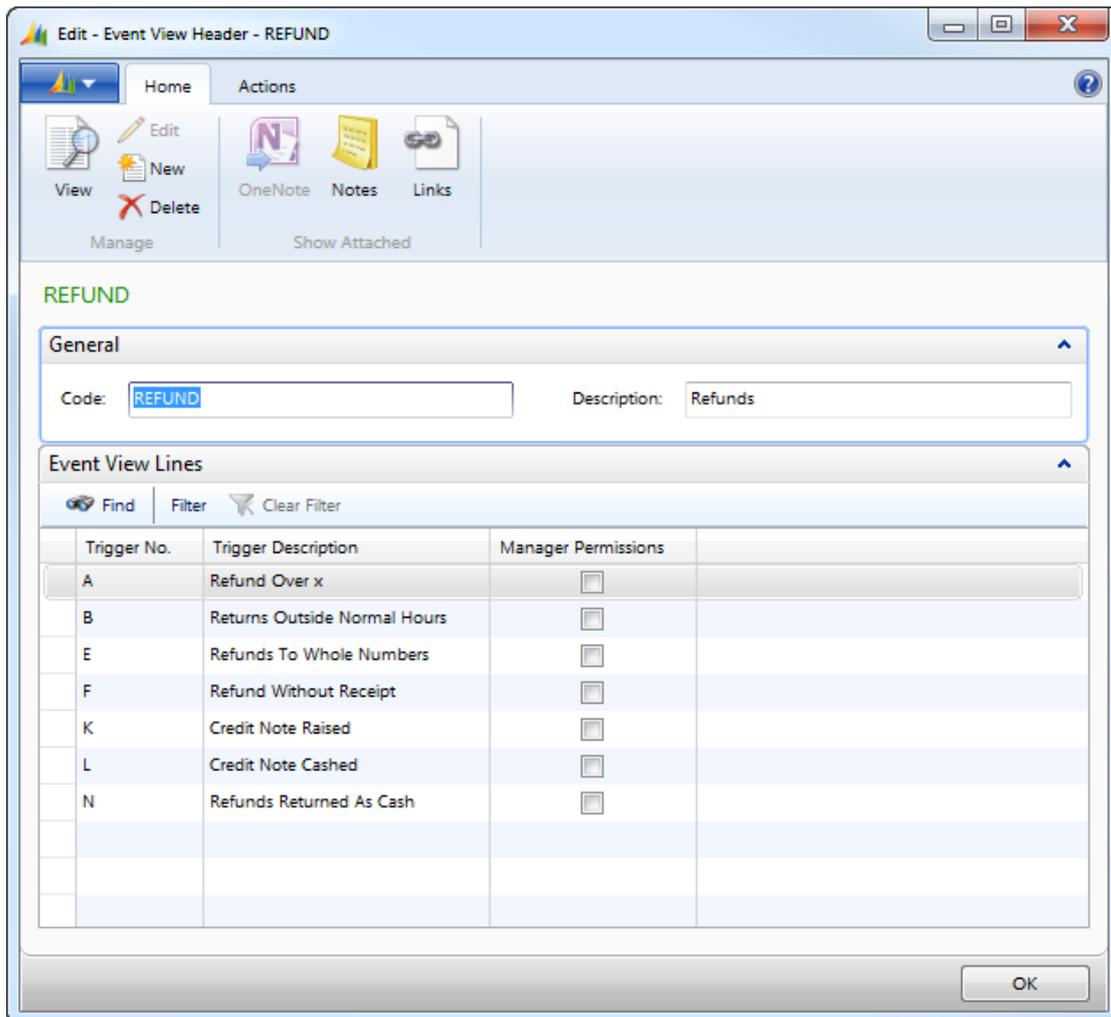


The **Sorted by Trigger** option can also be used. Then the list is sorted with the highest values on top. There are more triggers in use than can be displayed in one view, and therefore an **Event View Group Filter** is available:



For the **Refund** group it will only display triggers that belong to that special group. The group is specified in the **Event View Header** where the ID for the group is defined and after that the members of the group. This is done to make it easier to look at **Refund**, **Sales Outside Opening Hours** and similar issues. It is possible to define as many groups as needed.





If changes are made on the list of **Loss Prevention Triggers**, the events and incidents can be reset under the **Functions** button.



### 3.2.1 Configuring Non-User Defined Triggers

The triggers that are predefined and therefore not user-defined can still be configured to a certain extent. If you want to reverse sign for key value of some of the triggers this is done on the **Loss Prevention Triggers** card where the **Reverse Sign** column is check marked.

No.	Description	Reverse Sign	Enabled
A	Refund Over x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B	Returns Outside Normal Hours	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Creating incidents, as described before, can also be considered a part that is configurable from the triggers, based on the value that we want to create incident of and also what type of value we want to use to build this up.

### 3.2.2 Events Triggered

Events can be updated by the scheduler. It is also possible to update them here:

In the **Loss Prevention Triggers** card go to the **Qty. of Events** column and open an event, the **Fraud Event** card opens.

Under the **Function** button there is the **Fraud Event Creation** and **Fraud Elevation**.

**Edit - Loss Prevention Trigger Card - A - Refund Over x**

General

No: A      Enabled:

Description: Refund Over x      Reverse Sign:

Key Value: 20,00      Qty. Of Events: 4

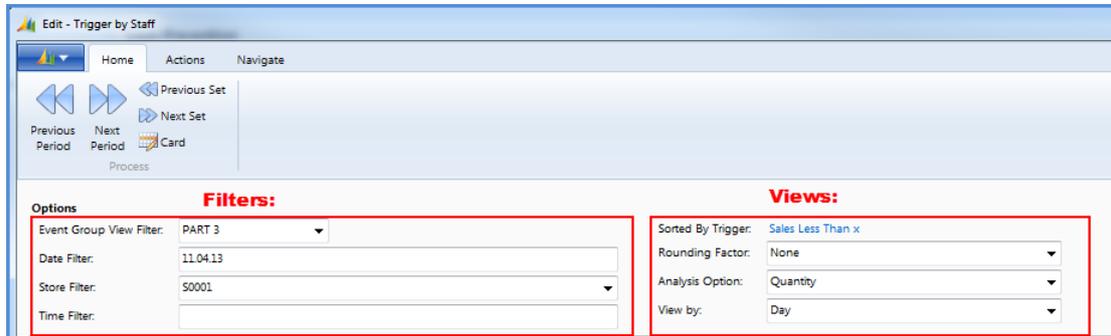
Value Of Events: -425,54

**View - Fraud Events**

No.	Trigger No.	Transactio...	Receipt No.	Staff No.	Store No.	POS Term...	Trans. Date	Trans. Time	Trans. Val.
54	A	47	0010001381	101	S0001	P0001	21.8.2007	10:44:23	-125
59	A	49	0010001383	101	S0001	P0001	21.8.2007	11:11:53	-125
297	A	160	00000P000...	101	S0001	P0001	26.11.2009	15:16:03.223	-100
1247	A	13	00000P002...	101	S0007	P0022	25.1.2011	09:04:21.780	-73

## 4 Triggers

The fields on the Trigger cards headers fall into two main categories: **Filters** and **Views**.



All the Trigger cards are similar and therefore the **Trigger by Staff** card will be used to describe them all as an example. The only exception is the **Trigger by Period** card, which will be described individually and a few special features on other cards.

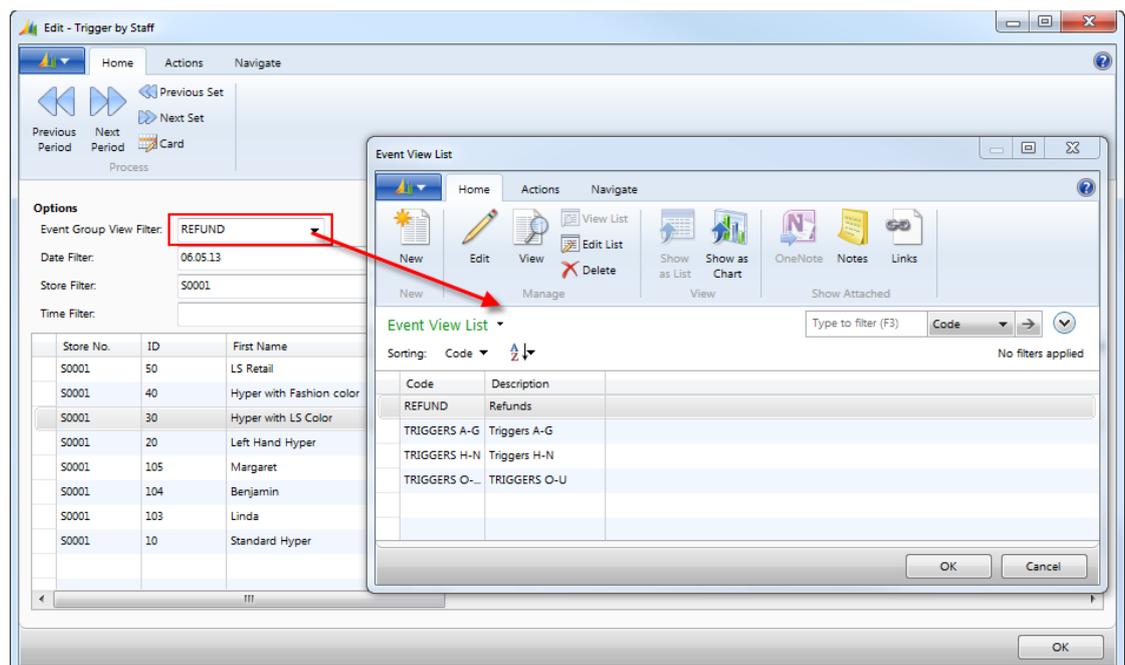
The columns, lines and buttons at the bottom of the cards are also similar and the basic description therefore also a part of the **Trigger by Staff** section, with a few additions where needed.

### 4.1 Trigger by Staff

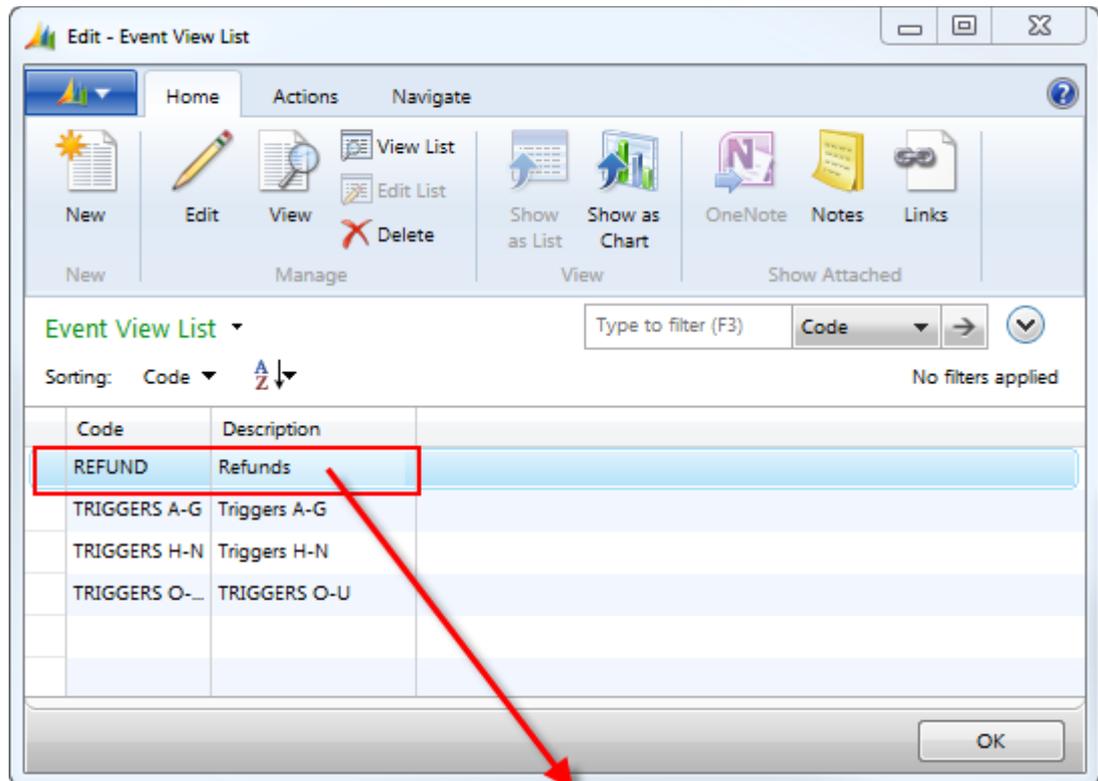
Under the **Option** tab there are seven main fields:

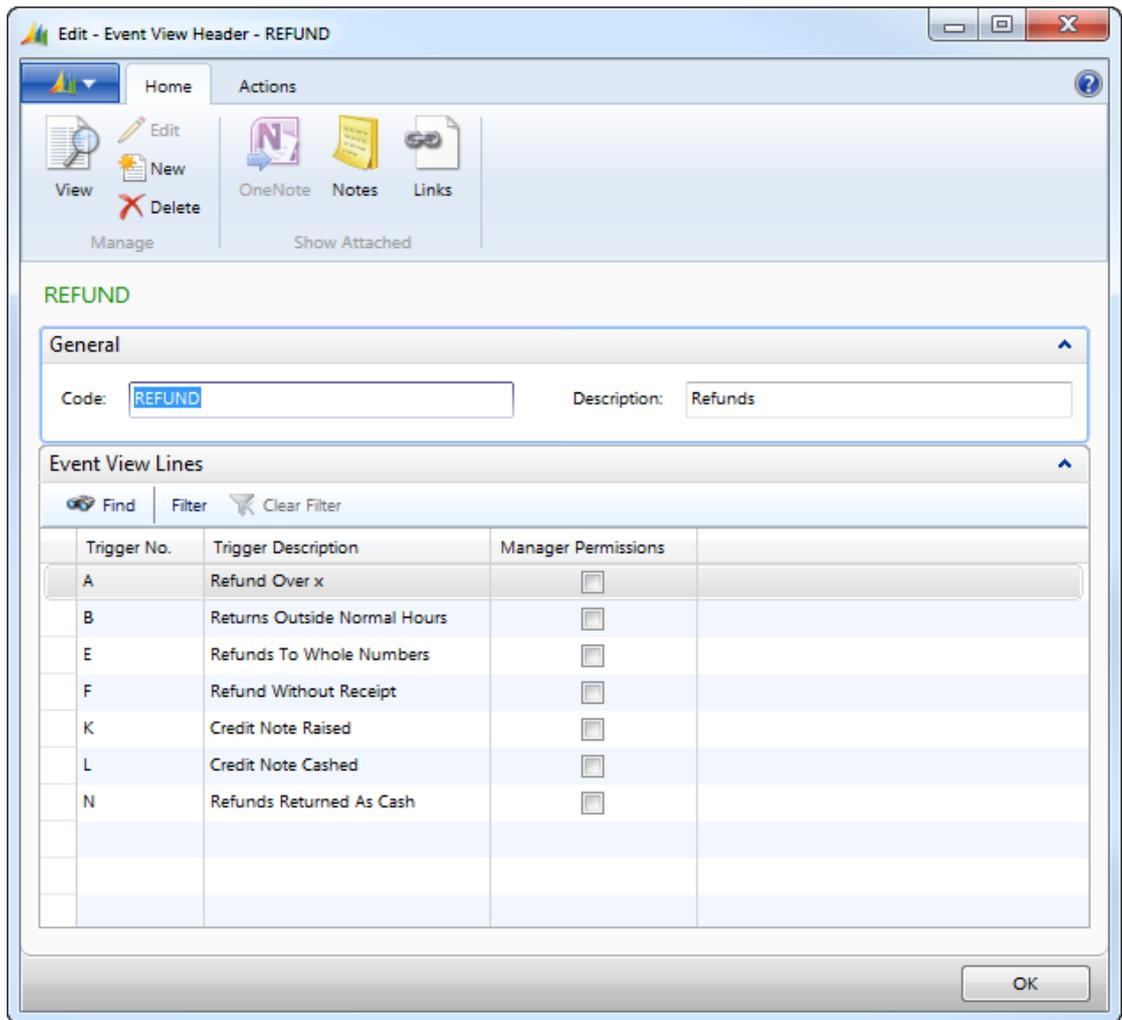
**Event View Group Filter:** The drop down opens the **Event View List** card. If no group is selected then the first 10 triggers will be shown on the card. It is therefore convenient to the user to define some Event View Groups.

From the **Event View Card** button, the **Event View Header** card is opened displaying the triggers that are within the group that you are viewing.

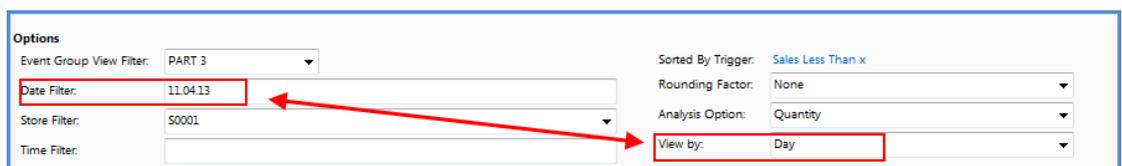


As described earlier for the **Refund** group, only the triggers that belong to this group are displayed.





**Date Filter:** Date and time are the keys to many of the events and incidents in the Loss Prevention module as described elsewhere in this guide. The period is selected in the filter and view parts of Options.



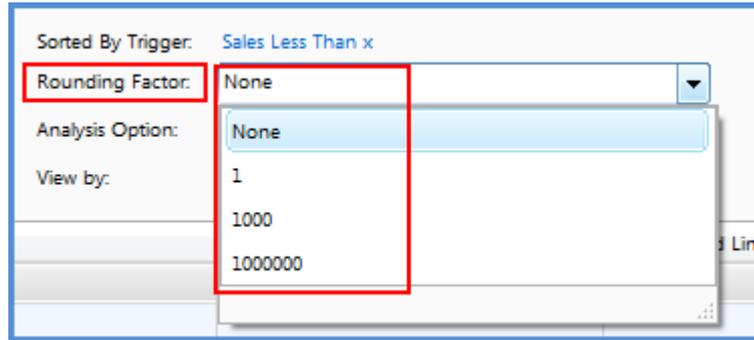
In the **Date** filter filed the period is displayed according to the standard NAV rules, for instance **01.12.10...31.12.10** if a month is selected and the period is October 2010.

**Time Filter:** If the user wants to narrow the period down to certain hours, the time Filter is used.

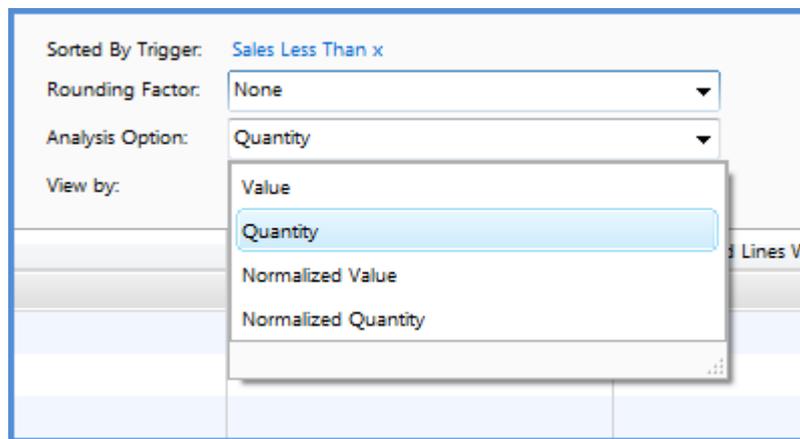
**Sorted By Trigger:** A drop-down list allows the user to select a trigger for the Loss Prevention Triggers card.

Description for the **Sorted By Trigger:** Once a trigger has been selected the description from the **Loss Prevention Triggers** card appears here.

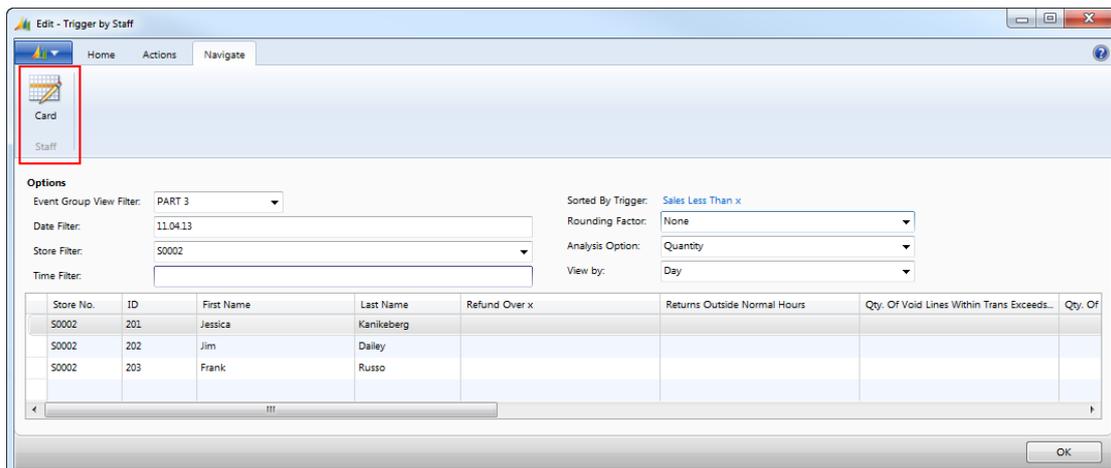
**Rounding Factor:** The detail for the rounding is decided here:



**Analysis Option:** This gives the options to have the information displayed based on **Value, Quantity, Normalized Value** and **Normalized Quantity**.



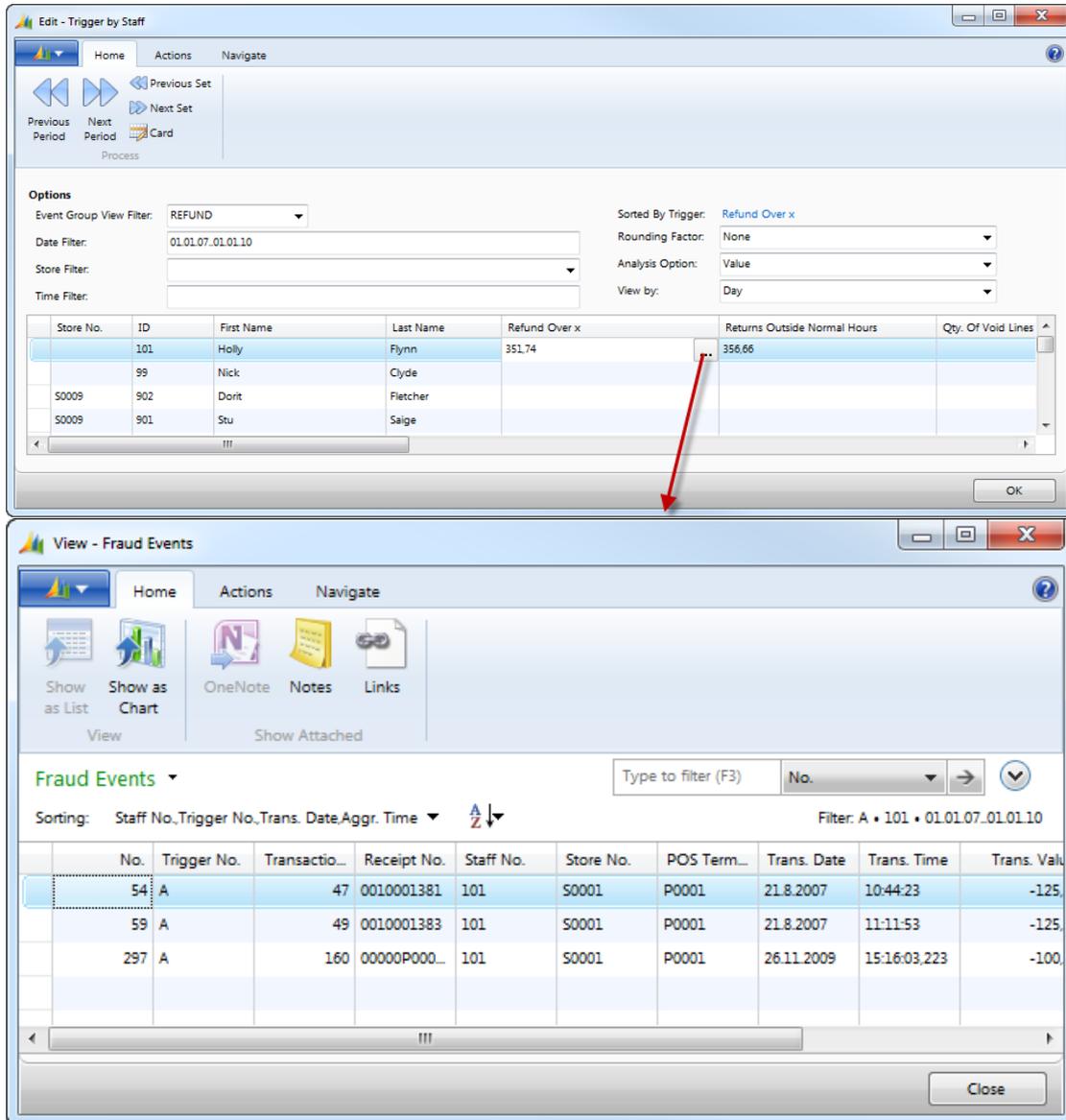
Under Navigate, **Staff**, the **Staff list** and **Staff card** can be viewed for the staff member in question.



The columns at the bottom part of the card show some further information. The first columns cover the **Store No.** where each staff member works and the details for each staff member: **ID, First** and **Last Names**.

In the following column triggers are shown, either all if **Event View Group Filter** is left unused, or the selection of the group, as explained earlier.

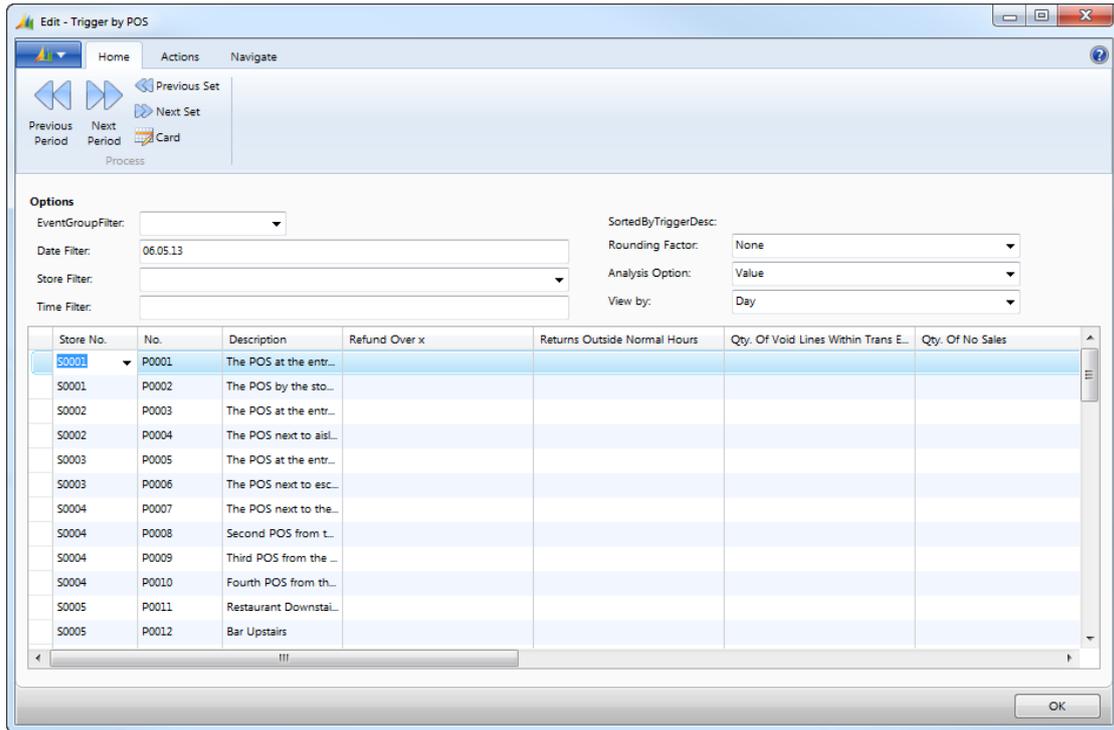
In the columns that show triggers it is possible to use several lookups, for instance get the background for **Fraud Events**. From the **Fraud Events** card there are several options available under the **Transaction** button.



## 4.2 Trigger by POS

The card header is similar to the **Trigger by Staff** card.

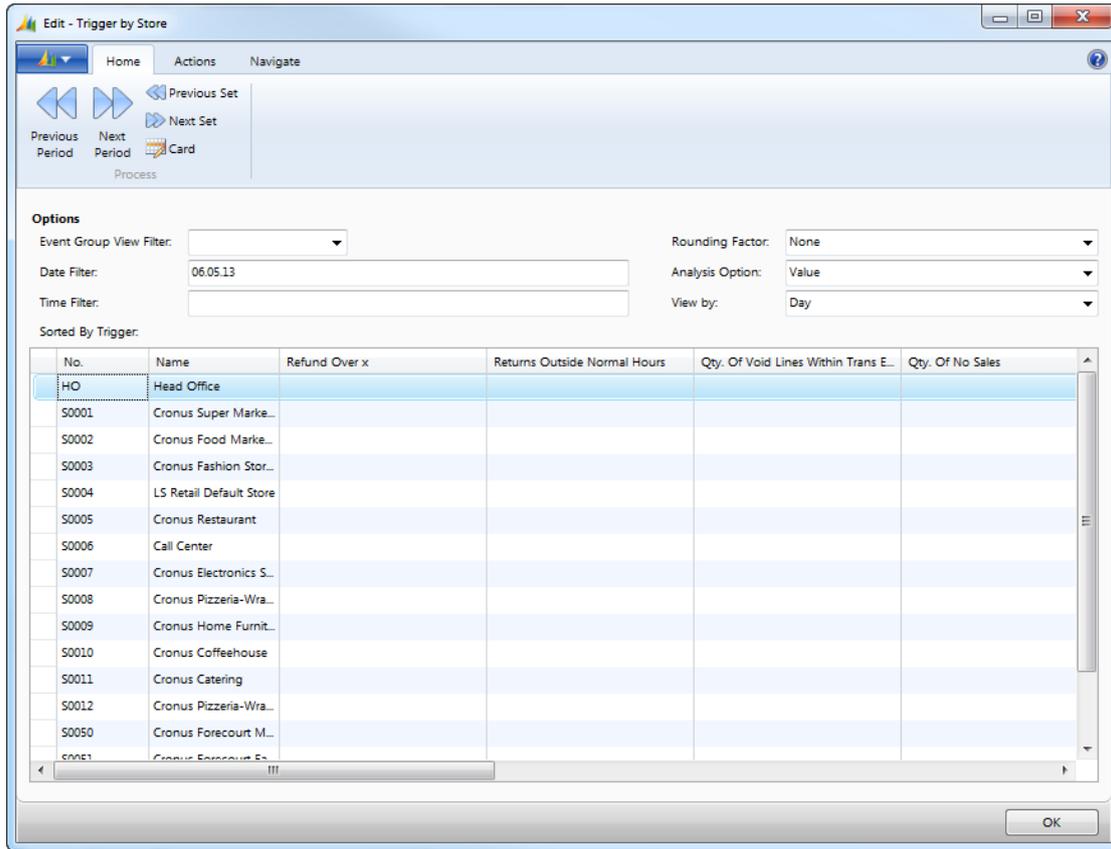
At the bottom of the card, the first three columns display **Store No.**, **No.** (of POS Terminal) and **Description** of the **POS Terminal**. The rest of the columns show the selected triggers. Under **Navigate**, **POS Term.**, there is a **Card** button that displays the corresponding **POS Terminal** card via The POS Terminal List.



### 4.3 Trigger by Store

The card header is similar to the Trigger by Staff card.

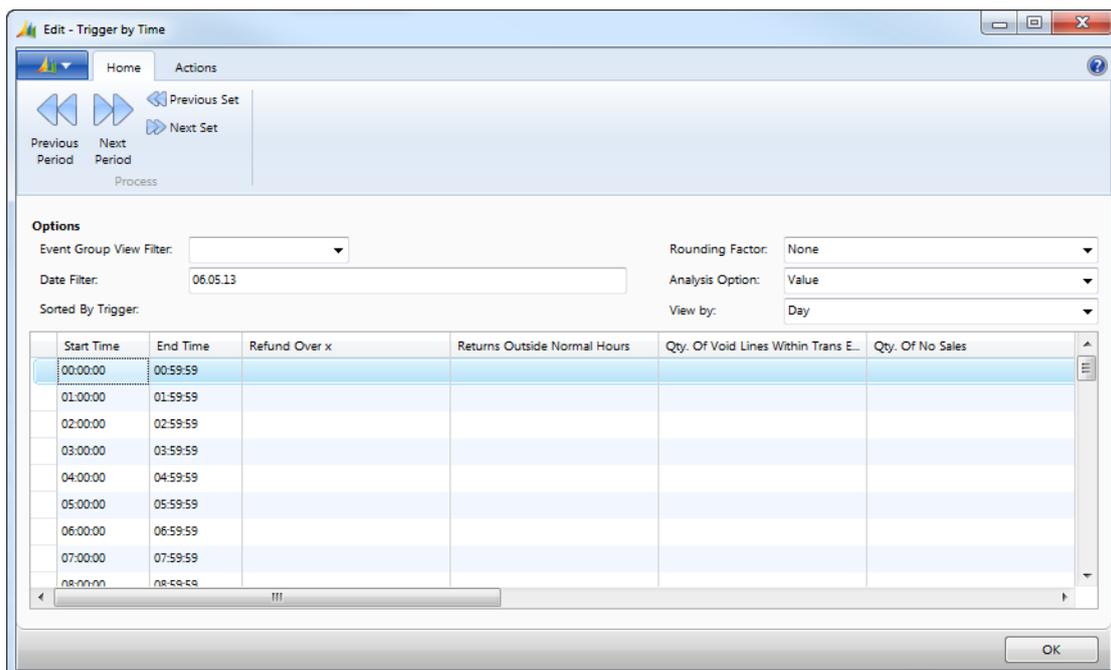
In the line part of the card the first two columns display the store **No.** and **Name**. The rest of the columns show the selected triggers. Under **Navigate**, **Store**, there is a **Card** button that displays the corresponding **Store Card** via the Store List.



### 4.4 Trigger by Time

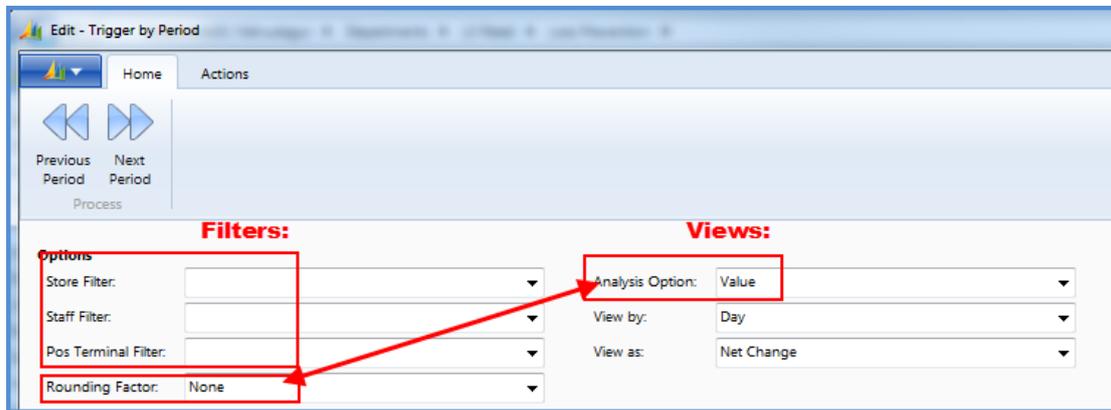
The card header is similar to the **Trigger by Staff** card, but the **Time** field is not displayed.

In the line part of the card the first two columns display **Start Time** and **End Time**. The rest of the columns show the selected triggers.

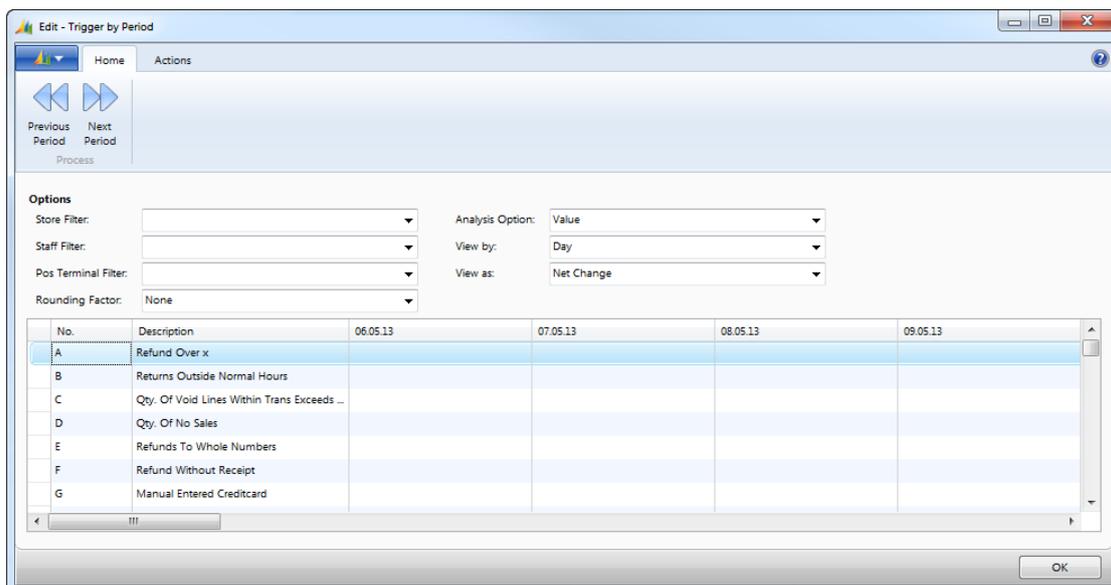


## 4.5 Trigger by Period

The views and filters in the header on the **Trigger by Period** card are a bit different from the previous headers. The filters are for **Store**, **Staff** and **POS Terminal** and are self-explanatory. The **Views** are similar to the **Trigger by Staff** card, but show only the **Rounding Factor** and the **Analysis Option**.



The columns are also different; the triggers are shown in the lines, **No.** and **Description**, and the rest of the columns display the periods according to the selection on the left hand side at the bottom of the card.



## 5 Setup

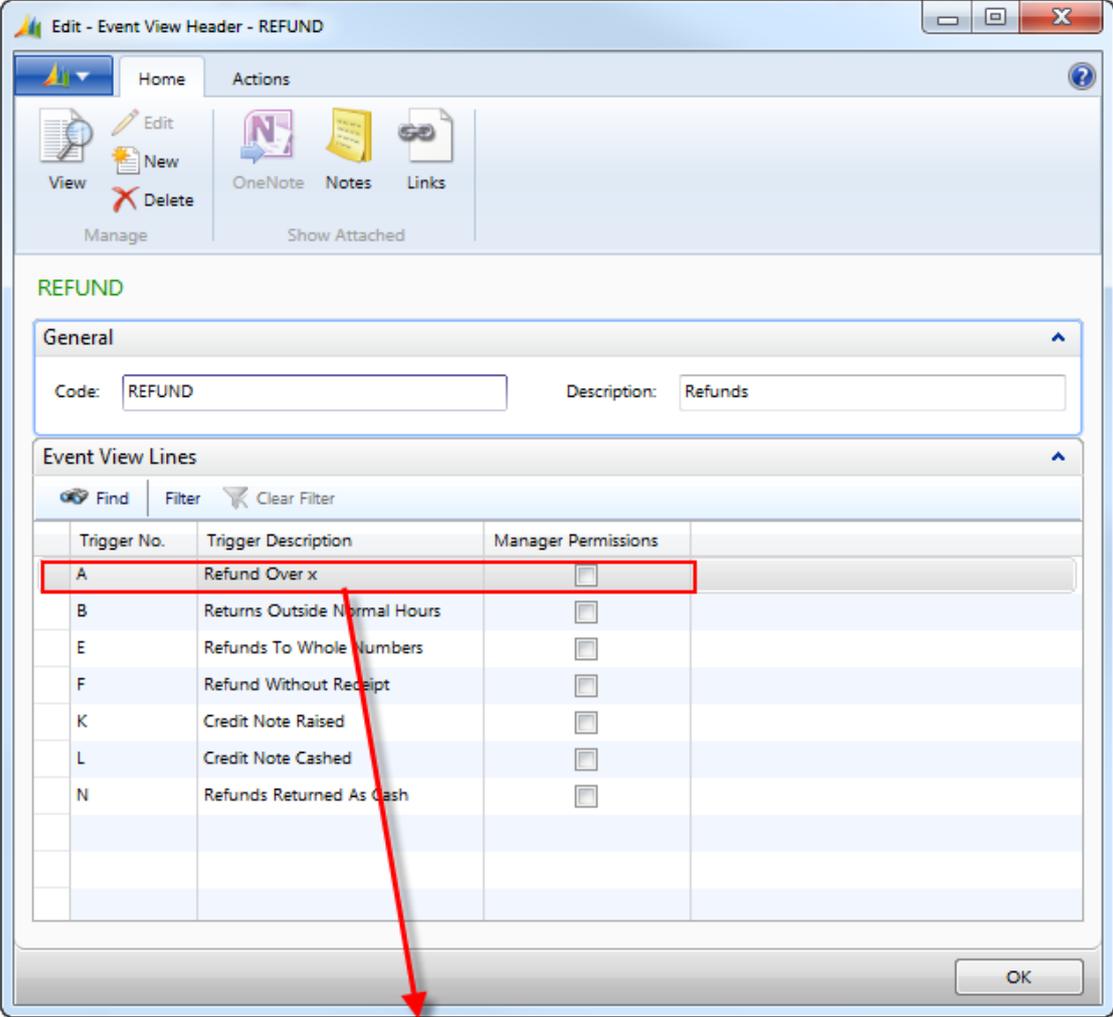
The **Loss Prevention Setup** is covered earlier in this document.

### 5.1 Event View Header

The **Event View Header** is displayed in **LS Retail – Loss Prevention, Setup, Event View List**.

Since there are more triggers in use than can be displayed in one view, the **Event View Group Filter** is used to define the **Event List**.

Groups are specified in the **Event View Header** and their functionality has already been described in another context. For each trigger it is possible to see the relevant triggers in a **Loss Prevention Trigger List** opened under the letter for each trigger.



REFUND

General

Code: REFUND Description: Refunds

Event View Lines

Trigger No.	Trigger Description	Manager Permissions
A	Refund Over x	<input type="checkbox"/>
B	Returns Outside Normal Hours	<input type="checkbox"/>
E	Refunds To Whole Numbers	<input type="checkbox"/>
F	Refund Without Receipt	<input type="checkbox"/>
K	Credit Note Raised	<input type="checkbox"/>
L	Credit Note Cashed	<input type="checkbox"/>
N	Refunds Returned As Cash	<input type="checkbox"/>

OK

Loss Prevention Triggers ▾

Type to filter (F3) No. ▾ →

Sorting: No. ▾ A Z ▾ No filters applied

No.	Description	Reverse Sign	Enabled
A	Refund Over x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B	Returns Outside Normal Hours	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C	Qty. Of Void Lines Within Trans Exceeds x%	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D	Qty. Of No Sales	<input type="checkbox"/>	<input checked="" type="checkbox"/>
E	Refunds To Whole Numbers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F	Refund Without Receipt	<input type="checkbox"/>	<input checked="" type="checkbox"/>
G	Manual Entered Creditcard	<input type="checkbox"/>	<input checked="" type="checkbox"/>
H	Sales Outside Normal Hours	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
I	Manual Price Changes	<input type="checkbox"/>	<input checked="" type="checkbox"/>
J	Manual Discount Given	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
K	Credit Note Raised	<input type="checkbox"/>	<input checked="" type="checkbox"/>
L	Credit Note Cashed	<input type="checkbox"/>	<input checked="" type="checkbox"/>
M	All Transaction Containing Voids	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
N	Refunds Returned As Cash	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
O	Discount Greater x%	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P	Transactional Voids	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Q	Payment On Account	<input type="checkbox"/>	<input checked="" type="checkbox"/>
R	Round Figure Sales	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
S	Sales Less Than x	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
T	Sold Below Cost	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
U	Refund To Credit Card	<input type="checkbox"/>	<input checked="" type="checkbox"/>