CI360\_Direct\_Merge\_Variables

Enhance Engage:Direct exports with data merge from auxiliary SAS datasets

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# Background

More complex exports from Engage:Direct can be built with the following helpful features of this tool:

* One or more SAS datasets can be created in a segment map (potentially, an export at a different subject) and used for appending that data to export from task.
* Pre-compute data items and re-use them across multiple tasks
* Ability to export datasets with data items that do not share the same “refine” criteria
* Ease appending of data from an external source without the need for updates to information map or load to a table, if the only purpose of the external fields is to populate an export file

# Possible use cases

* An export file that contains an aggregate from a different subject. For example, an account calculated item containing “Number of overdrafts” be added to an export file from a task (at customer level). At the time of writing this document, CI360 does not permit the addition of a calculated item at a different subject level (ie not primary subject level) on a task export file.
* A SAS dataset containing cleansed addresses can be used to append to the task export file (without having to load it to the database or change the information map)

# Pre-requisites:

The exports from the DM tasks must be to SAS datasets. This stored process does not update CSV exports.

This STP was tested with SAS M8 and DM Agent release 2506. SAS M7 or M9 may require minor adjustments.

# Installation

1. Import the STP package CI360\_Direct\_Merge\_Variables.spk
2. Copy the sas code file CI360\_Direct\_Merge\_Variables.sas to a directory of your choice. Optionally, update the following two lines in the code

%let logdir=;

%leg bkpdir=;

For logdir refer to the logging section of this document below.

The variable bkpdir can be used to specify a location to backup the export dataset(s) from ci360 that are input to this process. You may specify any directory/folder of your choice except the directory that you are using in ci360 to write the export SAS datasets. There is no need to change this variable, except when you are debugging this process.

1. Use SMC/EG to modify the stored process that was imported in step #1
   1. Update the line that begins with %include. The file path must match the location that you specified in step #2
2. Run the appropriate dm commands to make the new stored process available in ci360.
3. sstp - send stored processes
4. cim - clear ci360 cache

# Function

This new STP when executed in a task prior to any post process will append the required information into the export dataset from the task.

All SAS dataset exports from the task are processed for data append one after another.

There can be one or more append datasets to process.

Parameters

|  |  |  |
| --- | --- | --- |
|  | Parameter name | Description |
| 1. | p\_join\_type | This parameter specifies the type of join between the append dataset(s) and the dm task export dataset. The same join is used for all export datasets.  It can contain either of two values:  Left  Inner (default) |
| 2. | p\_append\_dsn | The two part name of the append dataset. When there are more than one append datasets, they can be specified separated by blank. For example:  ciexport.append\_dsn\_1 ciexport.hh\_agg |
| 3. | p\_export\_file\_pattern | If your task exports multiple SAS datasets, then you can specify which datasets need to be processed by this process.  For example, the dm task exports three SAS datasets:   1. Ciexport.tsk\_1234\_vendor 2. Ciexport.tsk\_1234\_contact 3. Ciexport.tsk\_1234\_meta\_report   We want to append to only #1 and #2 above.  Set p\_export\_file\_pattern=%str(vendor|contact)  The pattern is processed using prxmatch and can use that syntax. For eg.  %str(vendor\_export[0-9]) will allow processing vendor\_export1--vendor\_export\_9  When set to a . (dot) or blank all SAS datasets specified in macrovar table are processed |
| 4. | Sort by? | If you would like to sort the export file after update, specify the sort here. Leave it blank/empty, if you do not need a sort.  For eg.:  Indiv\_id  Indiv\_id account\_number  Indiv\_id descending account\_number  Descending Indiv\_id  The names are not case sensitive.  Separate multiple variables by space  Add the prefix “descending” before any variable that needs a descending sort. |
|  |  |  |

# How to use this utility

Segment map exports household data items and household calculations/aggregations at the Household level.

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AI-generated content may be incorrect.

Above export generates two export datasets. (Usually – one dataset is sufficient. Here we generated two datasets for test purposes only).

A screenshot of a computer

AI-generated content may be incorrect.

The above segment map export dataset stores data at household level, and includes the attributes CITY/STATE which will be used to export the DM task. This export can contain any calculated data item at the household level.

Notice, that the \_\_join\_keys data item stipulates that this export dataset must be “joined” with the task export dataset using the data field named “\_\_dn\_household\_id”. This usage is further described in the following section.

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AI-generated content may be incorrect.

Task export is created with empty “text “ fields named city/state/zip/continent. These data items (which must be assigned the same name as in the segment map export) will be populated using the segment map export dataset

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AI-generated content may be incorrect.

Add this new STP process node as the first post process. This process node will update the SAS/export dataset with matching data item names. The output of this process node should be input to a post process that exports the data in the desired format.

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The stored process parameters below specify that the DM task export sas dataset is to be merged with two input export datasets named dynvar\_hh\_1 and dynvar\_hh\_2 which are stored in the ciexport library. Further, these two input datasets should be merged via an “inner” join to the DM task export sas dataset. After the merge, the output SAS dataset must be sorted on the data items specified.

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AI-generated content may be incorrect.

# Logging

Logging is controlled by the macro variable “logdir” in the code.

If the variable is set to an empty string – the default ci360 logging will take effect.

If the variable is set to an OS directory/folder name, the said directory/folder is created if it does not exist and a new log file is generated for each execution. The log file is named:

mrgvars\_<taskcode>\_yyyymmddhhmmss\_<random-string>.log

# Task export dataset

The name/location of the export dataset is retrieved from the MacroVar table associated with direct marketing task.

The export dataset(s) in the DM tasks that use this STP has the following requirements:

1. The library that stores the export dataset must either be pre-assigned or defined via mausrexp.sas.
2. Any data item that needs to be appended from an append dataset, should be defined as a text data item with format $1. The name of the data item must match the corresponding data item name on the append dataset. Any format needed for the data item must be specified on the append dataset.
3. Any data item that is prefixed with “\_\_dn\_” will be excluded from the output dataset after append. Occasionally, a data item may need to be included on the task export file for the purpose of a join with an append dataset. Such data items can be excluded using this prefix. If you prefer to change this default behavior, change the following line as under in the SAS code:

%let g\_drop\_dn\_columns=N;

1. The dataset must include the primary subject id with the same name as the database column name. Alternatively, the dataitem \_\_join\_keys must be added to each append export dataset.
2. The sequence of the data items and any sort specified by the user is preserved in the output dataset.

# Append export dataset

The append dataset(s) that are created in an associated segment map or is simply an external SAS dataset must follow the following rules

1. The library that stores the export dataset must either be pre-assigned or defined via mausrexp.sas.
2. If the append dataset contains a data item with the same name as the target dataset the value in the append dataset data item replaces the corresponding data item value in the target dataset. If a format and label are present on the append dataset then those are copied as-is to the target dataset.
3. Any data item that does not match with the corresponding target dataset data item is ignored. So, the append dataset may contain additional data items that may not be used in a particular task.
4. By default, the append dataset is joined/merged with the task export dataset using the primary subject identifier (Database column name of the primary subject identifier for CI360). If a different join is needed, then add a new text data item with the name \_\_join\_keys. This text data item should be populated with the data item(s) on which the join should be based on. Multiple data item values can be separated by |. Note, that the join data item names must be identical between the append dataset and the dm task export dataset.