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Solutive AG

Manuel Szkutnik

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# 1. Introduction

The following document represents the documentation of the SAP Connector.

# **1.1 Structure of the documentation**

The document shows the standard processes, which are delivered by the SAP Connector, to give an overview over the functionality of the SAP Connector. At the beginning of the documentation a description of the standard processes are given. That chapter is followed by a technical breakdown of the functionalities in particular and the customizing. Finally the adjustments of the SAP Connector for the customer are shown.

# 2. Standard processes – SAP Connector

In this chapter the standard processes of the SAP Connector are described on a business process point of view. All processes are triggered from SAP CRM due to most security concepts, which are not allowing external software to connect the SAP CRM directly.

# 2.1 Campaign synchronisation

The following figure illustrates the standard campaign synchronisation process.

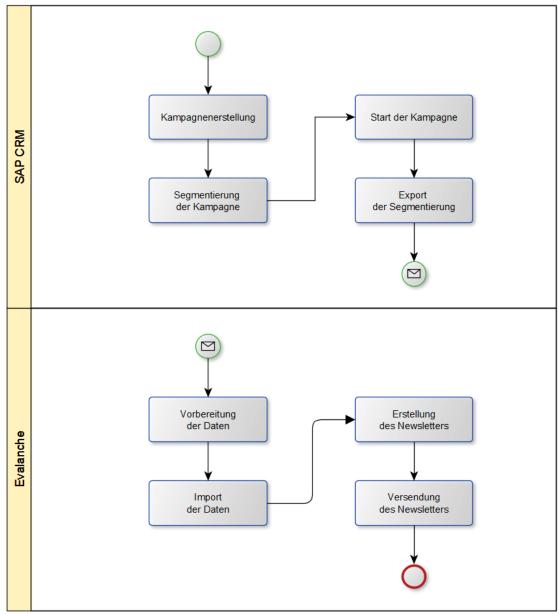


Figure 1: Campaign synchronisation standard process

As shown in figure 1 the export is automatically done direct from SAP CRM to Evalanche via SAP Connector. This is done by gathering all partners from segmentation, separating them by a filter to transfer them to the different Evalanche clients and synchronise the data. Which partner data are used is defined by the customer and selected by the mapping. In Evalanche the partners are stored in a - for the campaign specific created - target group.

# 2.2 Unsubscription Module (not in scope)

All unsubscriptions are gathered from Evalanche by SAP CRM within a periodic background job.

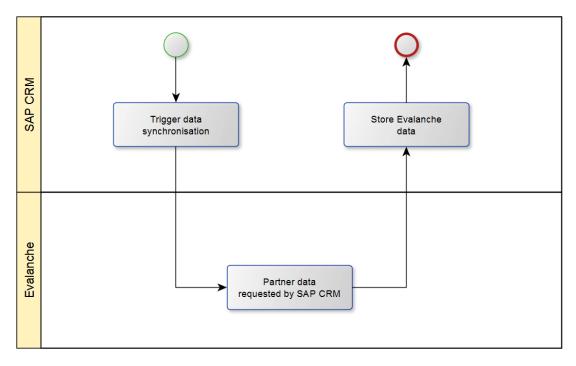


Figure 2: Gathering data from Evalanche

As shown in figure 2 SAP CRM connects to Evalanche and requests the unsubscription data for the last interval. The unsubscription is displayed by the Unsubscription field (internal name DELETED) in Evalanche. After receiving the data, SAP CRM transforms them into structures and stores it. The actual point of storage is defined by the customer.

### 2.3 Bounce Module

The bounce module works the same way as described by figure 2. SAP CRM receives the data from Evalanche. The bounce data are generated by mailing data in Evalanche and is only shown on partner level after the third hard bounce. The point of storage is also defined by the customer.

# 2.4 New Partners Module (not in scope)

If new subscriptions are possible via an Evalanche web form, the SAP Connector is able to synchronise them into SAP CRM. The new partners are collected in an Evalanche target group. This target group can be handled two different ways:

Direct synchronisation to SAP CRM
 The direct synchronisation is the quickest way to push new partners from Evalanche to SAP
 CRM, but if there is no matching/staging functionality within SAP CRM, it is a risk to create duplicates.

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- Clearing/Staging before the synchronisation to SAP CRM
- A clearing/staging before transferring the new partners to SAP CRM is the recommended way to prevent transferring invalid data to SAP CRM. The SAP Connector itself has no clearing/staging area build in.

As soon as the SAP Connector receives the new partners, it will generate them based on the customers definition. If an account ID is provided, the partner can get assigned to it. If no account ID is provided the partner will be assigned to a "Standard" company since an automatic assignment based on a company name is very difficult and is a source for invalid data. A manual step is needed to assign the partner to its account.

#### 2.5 Modified Partners Module

If partners can change their data by themselves via an Evalanche web form, the SAP Connector can synchronise this data to SAP CRM based on an Evalanche target group. There are two ways like described in New Partners Module - direct synchronisation or clearing/staging before the synchronisation. Since the partners have already an unique key as an identification the data will only be updated in SAP CRM.

With this module the SAP Connector is able to implement a partial unsubscription. Partners are only able to choose between different newsletters and not just revoke the permission at all. This detailed information, which newsletter they want, can be synchronised to SAP CRM.

#### 2.6 Mailing Statistics Module

The mailing statistics module can gather the mailing click behaviour for partners and transfer it to SAP CRM. This data takes place at partner level e.g. if a mailing was opened and on which articles or links the partner has clicked. The data are stored in /eva/-namespace tables in SAP CRM and can be displayed in different ways e.g. on partner detail page or can be analysed by reports.

Here is an example how it could look like:

▼ E-Mail Activity			i (i) (i) (i)
E-Mailing: Product 1     E-Mailing: Product 2     E-Mailing: Product 3	Date: 06.11.2015 Date: 18.11.2015 Date: 20.12.2015	Status: not opened Status: opened Status: opened	Click behaviour Click behaviour
Contact wants to receive E-Mails	Yes / No		
E-Mail of contact is valid / not bounced	Yes / No		

Figure 3: Click behaviour assignment block

This pop-up will be shown after clicking on "Click behaviour".



Figure 4: Click behaviour pop-up

### 2.7 Double Opt-In Module (not in scope)

The double opt-in module requests the granted permission data from Evalanche (see figure 2). These information are stored in the Permission field in Evalanche, but the Evalanche API provides the data not from this field directly. It is working with internal data that are not shown on the partners detail view in Evalanche and can only be obtained by given the double opt-in via the permission link within the mailing. This module stores the double opt-in data – like the unsubscription module – also defined by the customer.

# 3. Technical Documentation

This chapter shows the technical part of the documentation.

## 3.1 Connection to Evalanche

The connection from SAP CRM to Evalanche will always be via https protocol. As a requirement for this form of connection, the Cryptographic Library has to be installed on the SAP CRM. In addition the domain scnem.com or IP 80.190.129.133 has to be enabled at the firewall configuration due to the outbound connection from SAP CRM to Evalanche. The SAP Connector can work with an access URL to Evalanche or via http destination (SM59). Evalanche doesn't send any data to SAP CRM. As a leading system SAP CRM always triggers the synchronisation.

#### 3.2 Customizing of the SAP Connector

This chapter describes the customizing tables of the SAP Connector.

#### 3.2.1 Configuration: /eva/config,/eva/config\_ext1 and /eva/mandanten

The configuration tables contain data, which are needed to set up the connection to Evalanche like username, password and intervals. The highlighted fields are used within the SAP Connector. All other fields are deprecated due to the connection to multiple Evalanche clients (moved to table /eva/mandanten).

	/EVA/	CONF	'IG Active	<b>POOL_ID</b> : Evalanche Pool-ID. The Pool ID field is			
Short Description							
Attributes Delivery and Maintenance Fields Input Fields Input Fields Input Fields Input Fields Input Fields							
xDBBBB							
Field	Key	Ini	Data element	<b>URL</b> : This field contains the URL to Evalanche or			
MANDT			MANDT	the SM59 destination			
SYSID		<b>V</b>	SYSID				
ID				USERNAME/PASSWORD: Login data for API user			
POOL_ID	- n		/EVA/POOL_ID	<b>INTERVAL_UPDATE</b> : The interval for calculating			
URL			/EVA/URL	the unsubscription timestamp for Evalanche API			
CO ID			/EVA/CO_ID				
CO_TEXT		Π	/EVA/CO_TEXT	(must match with the background job interval)			
			/EVA/MANDITOR_ID	ADMIN_EMAIL: E-Mail address used, if a			
MANDITOR_ID USERNAME			/EVA/USERNAME	background job gets an error			
PASSWORD			/EVA/PASSWORD				
				BATCH_USER: Batch user to determine the right			
PRIMARY_KEY_ID	VT D		/EVA/PRIMARY_KEY_ID	E-Mail address for periodic pool updates			
PRIMARY_KEY_TEX	<u></u>		/EVA/PRIMARY_KEY_TEXT				
INTERVAL BP			/EVA/INTERVAL_BP				
INTERVAL_UPDATE			/EVA/INTERVAL_UPDATE				
ADMIN_EMAIL			/EVA/ADMIN_MAIL				
FULL_SYNC			FLAG				
EMAIL_FIELD			/EVA/EMAIL_FIELDNAME				
UNSUB_FIELD			/EVA/UNSUBSCRIPTION_FIELD				
BATCH_USER			UNAME				
Figure 5: Table /eva	a/confi	g					
Transparent Table	/EV.	A/CO	NFIG EXT1 Active	BOUNCE_INTERVAL: The interval for calculating			
Short Description	_		Konnector Extention 1				
				the bounce timestamp for Evalanche API (must			
Attributes [	Jeilvery	and I	Maintenance Fields Inp	match with the background job interval)			
xrree		8	E 🔁 🖉 Srch	GROUP_ID: Evalanche target group ID (New			
Field	Ka			Partners Module)			
			Data element	STANDARD_COMPANY: ID of standard company			
MANDT	<ul> <li>Image: A start of the start of</li></ul>		/ MANDT				
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ID	V		INT4				
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BOUNCE_FIELDN BOUNCE_INTERV GROUP_ID STANDARD_COMP. RELATIONSHIP REL_ROL GROUP_FLAG MAILING_INTER GROUP_ID_MOD GROUP_FLAG_MO PERMISSION_IN	AME		<pre>/ INT4 /EVA/BOUNCE_FIELDNAME /EVA/BOUNCE_INTERVAL /EVA/GROUP_ID /EVA/STANDARD_COMPANY BU_RELTYP /EVA/ROLE /EVA/ROLE /EVA/GROUP_FLAG /EVA/GROUP_FLAG /EVA/GROUP_ID_MOD /EVA/GROUP_FLAG_MOD /EVA/PERMISSION_INT</pre>	<ul> <li>Module)</li> <li><b>RELATIONSHIP</b>: Standard relationship for generation of new partners (New Partners Module)</li> <li><b>REL_ROL</b>: Standard role for generation of new partners (New Partners Module)</li> <li><b>GROUP_FLAG</b>: Evalanche attribute, which determines which partner is new in Evalanche. Base for target group configuration for new partners (New Partners Module)</li> <li><b>MAILING_INTERVAL</b>: The interval for calculating the mailing statistics timestamp for Evalanche API (must match with the background job interval)</li> </ul>			

Transparent Table	EVA,	/MAND	ANTEN Active	<b>DESCRIPTION:</b> Internal description of Evalanche	
Short Description EVALANCHE: Table for mandator data			E: Table for mandator data	client	
Attributes Delivery and Maintenance Fields Ir			intenance Fields Ir	MANDATOR_ID: Evalanche client ID	
			E 🔁 🖉 Srch	POOLID: Evalanche Pool-ID (see table	
Field	Key	Ini	Data element		
MANDT			MANDT	<b>CO_ID</b> : ID of Evalanche campaign field for	
SYSID	☑		SYSID	assigning partners to the campaigns target group	
ID			INT4	in Evalanche	
DESCRIPTION			CHAR255	<b>CO_TEXT</b> : API name of Evalanche campaign field	
MANDATOR_ID			/EVA/MANDITOR_ID	PRIMARY_KEY_TEXT: API name of primary key	
POOL_ID			/EVA/POOL_ID	field in Evalanche	
<u>CO_ID</u>			/EVA/CO_ID		
CO_TEXT			/EVA/CO_TEXT	<b>PRIMARY_KEY_ID</b> : ID of Evalanche primary key	
PRIMARY_KEY_TEXT			/EVA/PRIMARY_KEY	field; stores the unique key for partners coming	
PRIMARY_KEY_ID			/EVA/PRIMARY_KEY_ID	from SAP CRM	
MOD_GROUP_ID			/EVA/GROUP_ID_MOD	<b>MOD_GROUP_ID</b> : see GROUP_ID of table	
MOD_GROUP_FLAG			/EVA/GROUP_FLAG_MOD	/eva/config_ext1 (Modified Partner Module)	
TG_FOLDER_ID			/EVA/FOLDER_ID	<b>MOD_GROUP_FLAG</b> : see GROUP_FLAG of table	
FILTER			/EVA/FILTER	/eva/config_ext1 (Modified Partner Module)	
Figure 7: Table /eva/ma	anda	nten			
				<b>TG_FOLDER_ID</b> : Evalanche Folder ID for creation	
				of campaigns target group in each Evalanche	
				client	
				<b>FILTER</b> : Filter for partner assignment to	
				Evalanche client	
			Table 4	SAB Connector configuration	

Table 1: SAP Connector configuration

# 3.2.2 Mapping

The mapping of the SAP Connector is based on two tables /eva/mapping and /eva/mapping\_opt.

The table /eva/mapping holds the general mapping of the fields (SAP CRM to Evalanche). Here you can use SAP tables or ABAP classes to gather data. The partner ID is used as key to access the data. For example last name could be selected through table BUT000, but for E-Mail address the ABAP class is needed.

Table /eva/mapping\_opt maps the Evalanche option ID for Picklists (Dropdown-Box in Evalanche) or Multipicklist (Checkbox-Selection) options.

Transparent Table / EVA/MAPPING Active	SOURCE_TABLE: Name of a SAP table like
Short Description EVALANCHE: Mapping table for synchronic	_
Attributes Delivery and Maintenance Fields Inpu	BUT000
	<b>PRIMARY_KEY</b> : Field of table that holds the
XDBBB VIIIA VI Srch H	partner ID
Field Key Ini Data element	FIELDNAME: API name of Evalanche field
MANDT V MANDT	<b>TARGET_TYPE</b> : Type of Evalanche field.
SYSID I SYSID	Supported types are String, Boolean, Int, Picklist
ID V INT4	and Multipicklist
SOURCE_TABLE	<b>CLASS</b> : Name of class for selection through
FIELDNAME /EVA/FIELDNAME	0
TARGET_TYPE	ABAP. The class has to be inherit from class
TARGET_FIELD // // // TARGET_FIELDNAME	/eva/mapping_super
PRIMARY_KEY	<b>CLASS_RET_TYPE</b> : Return type of class method.
CLASS / /EVA/CLASS	Normally String is used.
CLASS RET_TYPE	<b>GET_VALUE_FROM</b> : Indicates if given mapping
GET_VALUE_FROM /EVA/GET_VALUE_FROM SYNCFLAG FLAG	record uses table or ABAP class for selection
Figure 8: Table /eva/mapping	SYNCFLAG: Inactive flag for given mapping
	record
Transparent Table /EVA/MAPPING_OPT 🖸 Active	TARGET_FIELDNAME: see FIELDNAME of table
Short Description EVALANCHE: Table for mapping options	/eva/mapping
Attributes Delivery and Maintenance Fields In	<b>VALUE</b> : Value of SAP field like "DE" for country
	iso code
xDDBB VDA V Srch	<b>OPTION_ID</b> : Option ID of Evalanche field
Field Key Ini Data element	
MANDT V MANDT	
SYSID V SYSID	
ID V INT4	
TARGET_FIELDNAME	
VALUE /EVA/VALUE	
OPTION_ID /EVA/OPTION_ID	
Figure 9: Table /eva/mapping_opt	

#### 3.2.3 Mailing Statistics

The mailing statistics module contains five tables in /eva/-namespace to hold the click behaviour of the partners. Mailings are stored in table /eva/mailings with send mailing timestamp, Evalanche mailing ID and preview URL. Every mailing consists of items, which are stored in table /eva/mailings\_it with name of item, URL (in case of a link) and type (A = Article; L = Link). The relationship between the mailing and the items are stored in table /eva/mailing\_r\_i. The recipients of a mailing are stored in table /eva/mailings\_bp with a flag, which shows if a partner has opened this mailing. Finally the table /eva/mailing\_rel shows the click behaviour of a partner, if an article or link has been clicked within a mailing.

Following figure shows the connection between the tables:

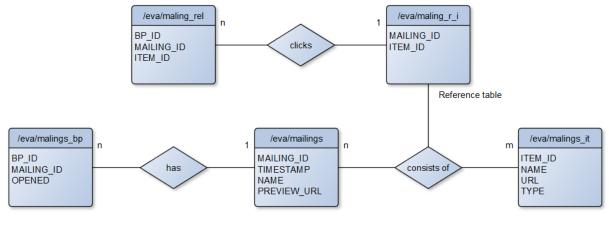


Figure 10: Mailing Statistic table model

#### 3.2.4 Internal tables

The table /eva/campaign contains the Evalanche IDs and report URL of a campaign synchronisation. This is needed if a campaign is synchronised more than once, so the Evalanche target group will be updated instead of new generated.

Transparent Table	/EVA/CAMPAIGN						
Short Description	EVALANCHE: Table for campaign detail						
Attributes Delivery and Maintenance Fields In							
xeles vela ys							
Field	Key	Ini	Data element				
MANDT	$\checkmark$	$\checkmark$	MANDT				
CAMPAIGN_ID	$\checkmark$	-	CGPL_GUID16				
MANDATOR_ID	$\checkmark$	-	/EVA/MANDITOR_ID				
GROUP_ID			/EVA/GROUP_ID				
OPTION_ID			/EVA/OPTION_ID				
REPORT_ID			/EVA/REPORT_ID				
REPORT_URL			/EVA/REPORT_URL				
LAST_SYNC_DATE			DATS				
LAST_SYNC_TIME			TIMS				

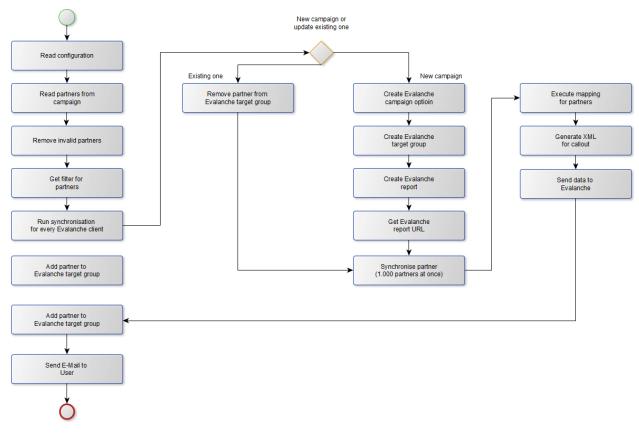
Figure 11: Table /eva/campaign

# 3.3 Technical breakdown of the SAP Connector

The technical breakdown chapter shows the internal procedure of the SAP Connector to visualise the steps are taken.

#### 3.3.1 Campaign synchronisation

The campaign synchronisation is started by report /eva/create\_campaign. The parameters are the campaign GUID and the username, who started the synchronisation, regarding e-mail feedback. The class /eva/cl\_sync\_campaign performs the following steps (incl. helper class /eva/cl\_xml\_parser):



#### Figure 12: Campaign synchronisation process

As shown in figure 12 it is a straight forward process with one decision, if it is an update of an existing campaign in Evalanche or a creation of one. The user will get an e-mail notification, if the process was successful or not at the end of the synchronisation.

#### 3.3.2 Synchronisation of unsubscriptions

The synchronisation of unsubscriptions starts with report /eva/sync\_unsubscriptions. The process will get all unsubscriptions from every Evalanche client maintained in table /eva/mandanten for the last interval given by configuration via table /eva/config. How the unsubscriptions are stored is defined by the customer. The process performs the following steps:

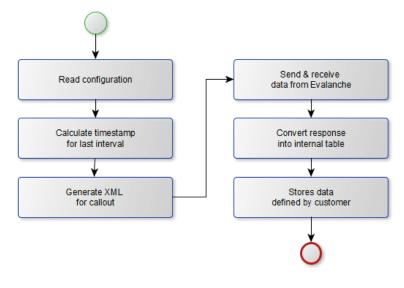


Figure 13: Synchronisation of unsubscriptions

Figure 13 shows the steps of the synchronisation. If an error is happening an e-mail will be send out to the admin e-mail address stored in table /eva/config.

#### **3.3.3 Synchronisation of bounces**

The synchronisation of bounces starts with report /eva/get\_bounce. The process follows the same steps like the synchronisation of unsubscriptions (see figure 13), except the timestamp will be calculated based on the interval stored in table /eva/config\_ext1. The class /eva/cl\_get\_bounces performs the process steps. How the bounces are stored is defined by the customer.

#### 3.3.4 Synchronisation of double opt-ins

The synchronisation of double opt-ins starts with report /eva/sync\_permission. The process follows the same steps like the synchronisation of unsubscriptions (see figure 13), except the timestamp will be calculated based on the interval stored in table /eva/config\_ext1. The class /eva/cl\_sync\_permission performs the process steps. How the bounces are stored is defined by the customer.

#### 3.3.5 Synchronisation of new partners

The synchronisation of new partners starts with report /eva/get\_new\_bp. The process in class /eva/cl\_get\_new\_bp performs the following steps:

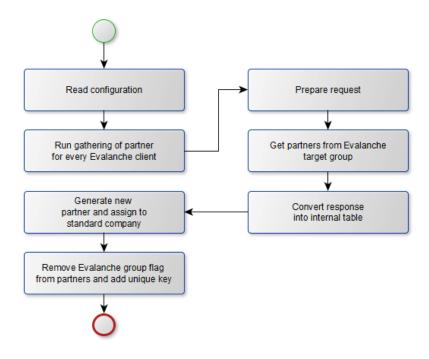


Figure 14: Synchronisation of new partners

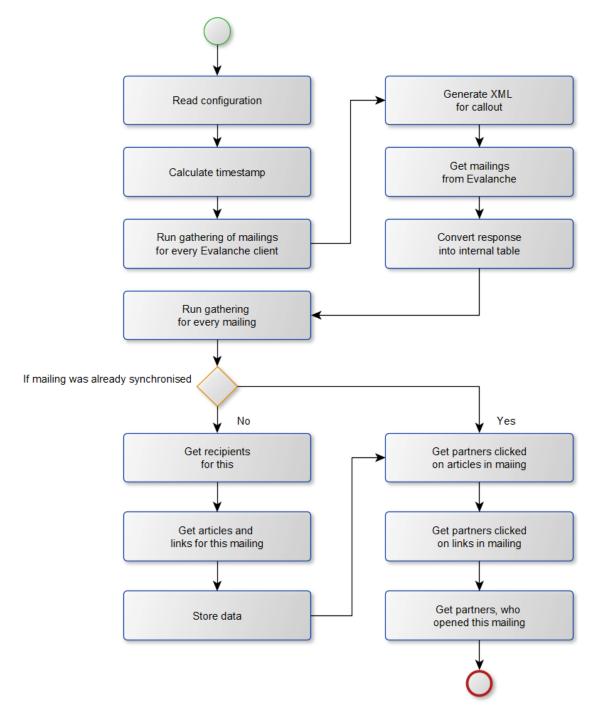
As figure 14 shows the process steps are performed for every Evalanche client. The partners are stored in the Evalanche target group for new partner. How the partners are generated in SAP CRM is defined by the customer. If an error occurs during the creation of a partner, the SAP Connector will not remove the group flag for this partner and thus will not add an unique key.

#### 3.3.6 Synchronisation of modified partners

The synchronisation of modified partners starts with report /eva/get\_mod\_bp. The process steps are the same like the synchronisation of new partners (see figure 14). If a partner has an unique key, it will be updated. If there is no unique key, this partner will not be processed.

#### 3.3.7 Synchronisation of mailing statistics

The synchronisation of mailing statistics starts with report /eva/get\_mailing\_statistics. The process is performed via class /eva/cl\_get\_mailing\_statistics with the following steps:





As figure 15 shows the process will get the mailing data and store the header data if they are new. For existing mailings an update is performed for the click behaviour and the openings of the mailings. The interval for this process is quite long, because if a mailing is outside the timeframe no more updates regarding click behaviour and openings will be gathered from Evalanche. The customer has to decide, which timeframe should be synchronised and at which time the mailing data needs no further updates from Evalanche.

# 4. Customer adjustments

This chapter shows the adjustments made for the customer.

## 4.1 Customizing

The customizing tables have to be adjusted to meet the requirements:

/eva/config

The table was enhanced by the BATCH\_USER field.

• /eva/mandanten

The fields for the New Partner Module were not moved from table /eva/config\_ext1, because the module is out of scope. The fields for the Modified Partner Module were moved from table /eva/config\_ext1. The field TG\_FOLDER\_ID was added, because Evalanche uses the pool alias functionality.

#### 4.2 SAP Connector processes

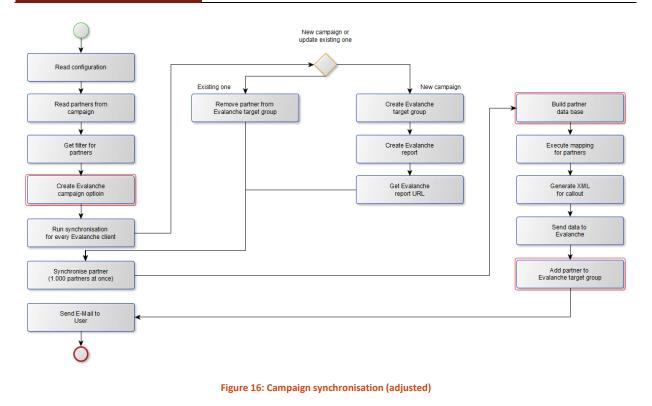
The following SAP Connector processes were adjusted.

#### 4.2.1 Campaign synchronisation

The campaign synchronisation and mapping process were adjusted.

- Remove invalid partner function was removed.
- Create campaign option function was moved out of the Evalanche client processing, because of the pool alias functionality.
- Synchronisation of partners was moved out of the Evalanche client processing, because of the pool alias functionality.
- The data collection during the mapping was moved a step ahead, so the mapping uses the gather data instead of reading it for each partner (performance tuning)
- Adding partners to campaign target group was moved into the batch processing of 1.000 partners per run, because of the high numbers of partners (performance tuning).

The following figure shows the new process:



### 4.2.2 Modified Partner Module

The partial unsubscription was realized via the Modified Partner Module. In doing so the module will only change the newsletter marketing attribute for partners, which are gathered in Evalanche during the unsubscription process.

#### 4.2.3 Bounce Module

The bounce module is adjusted to set the "no use" flag for the given e-mail address from Evalanche for the bounced partner.