



[Contacts Data Load From ThirdPartySftp To SAP Marketing Cloud _HANA LOGS]

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1 PURPOSE

The purpose of this document is to describe the general configuration steps required to set up the integration flow for migrating millions of Customers from/to third Party systems to SAP C/4 Marketing Cloud Systems. The integration flow provides out of the box capability to consume millions of customers in files of size 100k records from S3 buckets and splits them into smaller OData (5k) Packets and provides full traceability on whether each 1k or 5k packet is processed successfully or failed in SAP C/4 Marketing Cloud System.

This IFLOW is an enhancement of SAP Standard Content <https://api.sap.com/package/SAPHybrisMarketingCloudfilebaseddataload?section=Artifacts> that will address the following limitations of the standard content:

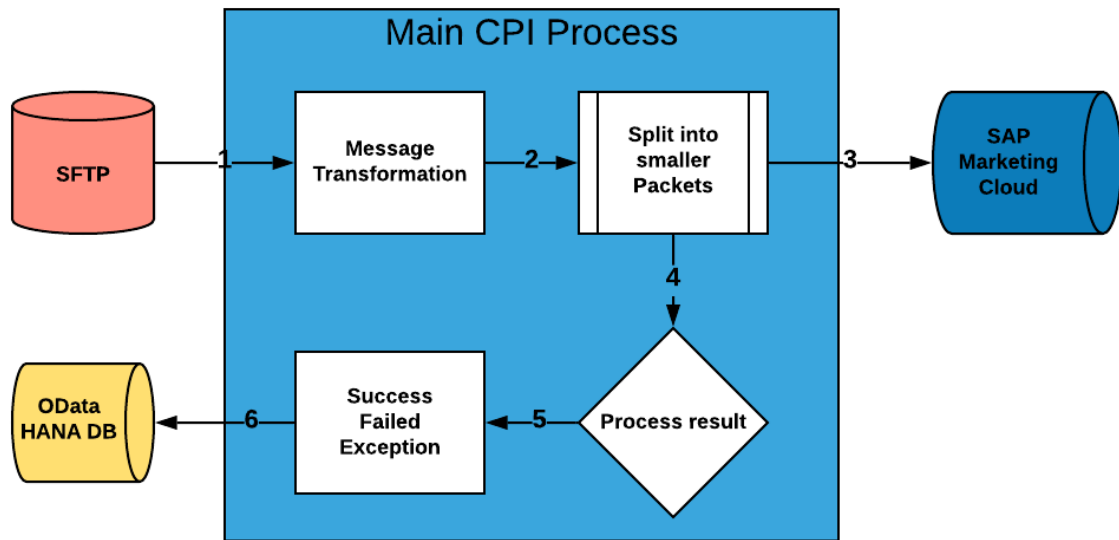
1. The error handling capability delivered in the standard integration triggers alerts via e-mail which is really not a good use case for complex large volume migration projects unless someone wants to jam their inbox with millions of error e-mail alerts.
2. There is no mechanism for full audit logging of what packets failed and what packets are successfully sent to marketing cloud for each file. Imagine a scenario where we need to migrate 20 million customers that are split into 200 files of 100k records and split into 1000k packet for each OData call to optimize performance and client want to have full traceability to extract files to understand what records failed and what records are processed successfully in SAP C/4 Marketing Cloud System for each file..
3. There is no standard CPI mechanism to automatically move the error files to error folder. Due to that limitation, the files are reprocessed in the next run by the CPI IFLOW resulting in many message failures in CPI and also adversely effecting performance.

In this IFLOW, the error logs for each packet of source files are written in HANA Data base. It provides flexibility of customers to review the results of the file packets that failed in graphical HANA reports and helps them to resolve data issues quickly.

2 OVERVIEW

This Integration Flow reads millions of customers from AWS S3 Buckets (100k files) and splits them into 5K or 1k OData API packets before sending data to the SAP Marketing Cloud Systems (5k OData Packet).

Please check the below diagram to understand the end-to-end process.



Step 1. The file is uploaded on AWS S3 bucket and AWS SFTP service is set up to read and write files into S3 via SFTP.

Step 2. CPI Integration Flow splits 100k files into smaller OData API packets.

Step 3. CPI Integration Flow Sends OData packets one by one to SAP Marketing Cloud.

Step 4. CPI Integration Flow analyses the SAP Marketing Cloud response of each packet.

Step 5. CPI Generates the log for each packet of each file indicating which file is successful and which packet is failed. Logs sent to HANA DB via exposed table as OData service. Source files are moved to Archive or Error folder based on results. The file is automatically moved into error folder if there is an error in processing the full file else it is moved into an archive folder.

3 PRE-REQUISITES

Before configuring Integration Flow, please make sure the following prerequisites have been met:

1. The SAP HANA Cloud Platform Integration has been delivered.
 - a. SAP HANA Cloud Platform Integration -
<https://www.sap.com/products/hana-cloud-integration.html>
<https://cloudplatform.sap.com/index.html>
2. Amazon Web Services account is enabled. S3 bucket is created and SFTP Transfer server is up and running. S3 bucket is a root directory of SFTP.
3. SFTP server is configured and connectivity between SAP CPI tenant and SFTP is established. SFTP user having permissions to create and update folders and files.
4. HANA database is up and running. A table called log table is exposed as OData service with CRUD operations.

Here is table definition:

	Name	SQL Data Type	Dim	Column Store D...	Key	Not Null	Default	Comment
1	Created	VARCHAR	50	STRING		X		
2	FileName	VARCHAR	255	STRING		X		
3	Packet	VARCHAR	50	STRING		X		
4	Status	VARCHAR	50	STRING		X		
5	Message	VARCHAR	5000	STRING		X		
6	Id	VARCHAR	100	STRING	(X1)	X		
7	Payload	NCLOB		LOB		X		

4 INTEGRATION FLOW CONFIGURATION

4.1 Configuration Parameters

Externalized Parameter Name	Description	Sample Value
Sender (Directory)	Root SFTP directory. A source directory of SFTP server.	DevelopmentLoads/LoadFiles/Contacts/C4M/After Split/Current
Sender Processing (Lock Timeout)	How long to wait before trying to process the file again.	20
Sender (User Name)	SFTP User Name. SFTP user which has access to SFTP directories.	CPI_USER_PROD
Sender (Timeout)	Maximum waiting time to contact the FTP server while establishing connection or performing a read operation.	10000
Sender (Post-Processing)	Controls which actions should be done after file processing.	Move File
Sender (Max. Messages per Poll)	Maximum number of messages to gather for each poll.	50
Sender (FileName)	Source File Name on SFTP server. A file from where to load data.	test_contacts.csv
Sender (Change Directories Stepwise)	Changes directory levels one at a time	true

Sender (Buffer size)	Write the file content using the mentioned buffer size.	128
Sender (Archive Directory)	Specifies the directory and the file name when moving the file after processing.	<code>\${property.archiveDirectory}/\${property.origFileName}</code>
Sender (Address)	SFTP server host name.	xxx.server.transfer.eu-west-2.amazonaws.com
Receiver - SAPMkt (Timeout)	Maximum time system waits before termination.	10
Receiver - SAPMkt (SAP_Mkt_Host)	Host address of SAP Marketing Cloud	https://myxxx.s4hana.ondemand.com
Receiver - SAPMkt (Credential Name)	Credential name to connect to the system as deployed in the tenant.	KTAPIUSER
Receiver - SAPMkt (Authentication)	Authentication type of OData service for SAP Marketing Cloud	Basic
Receiver - SAPMkt (Address)	Service root URL of the OData service provider.	<code>{{SAP_Mkt_Host}}/sap/opu/odata/SAP/API_MKT_CONTACT_SRV?v=0002</code>
Receiver - HANA_DB (Credential Name)	Credential name to connect to OData service	KTAPIUSER
Receiver - HANA_DB (Address)	Enter service root URL of the OData service provider.	hanadbODATAURL
Receiver - AWS_SFTP_LOG (User Name)	ID of the user performing file transfer.	CPI_USER_PROD
Receiver - AWS_SFTP_LOG (File Name)	Name of the file name to be written.	error_log.csv

Receiver AWS_SFTP_LOG (Directory)	-	File path from where log files should be written.	DevelopmentLoads/LoadFiles/Contacts/C4M/After Split/Current/Error
Receiver AWS_SFTP_LOG (Address)	-	Host name or IP address and port of the SFTP server.	xxx.server.transfer.eu-west-2.amazonaws.com
Receiver AWS_SFTP (User Name)	-	ID of the user performing file transfer.	CPI_USER_PROD
Receiver AWS_SFTP (Address)	-	Host name or IP address and port of the SFTP server.	xxx.server.transfer.eu-west-2.amazonaws.com
More Converter (XML XSD Path)	-	Path to Target Element in XSD	CSV_Contacts/Contact
More (Splitter XPath Expression)	-	Xpath expression to navigate to the split item using absolute path.	/CSV_Contacts/Contact
More (Splitter Timeout)	-	Maximum waiting time to contact the FTP server while establishing connection or performing a write operation.	10800
More (Splitter Grouping)	-	This configuration parameter is used to split the file into multiple OData packets . If the packet size is 5000 then 5000 interactions will be sent to marketing system in one API Call	5002
More (Splitter Concurrent Processes)	-	Number of processes running in	5

	parallel. Used for Splitter step.	
More (Path to Successful Logs)	Path on FTP server where to write logs of successfully processed records	DevelopmentLoads/LoadFiles/Contacts/C4M/AfterSplit/Current/Logs/ \${property.origFileName}/\${property.CamelSplitIndex}_Success_\${property.SAP_MessageProcessingLogID}.xml
More (Path to Failure Logs)	Path on FTP server where to write error logs	DevelopmentLoads/LoadFiles/Contacts/C4M/AfterSplit/Current/Logs/ \${property.origFileName}/\${property.CamelSplitIndex}_Failure_\${property.SAP_MessageProcessingLogID}.xml
More (Path to Exception Logs)	Path on FTP server where to write exception logs	DevelopmentLoads/LoadFiles/Contacts/C4M/AfterSplit/Current/Logs/ \${property.origFileName}/\${property.CamelSplitIndex}_Exception_\${property.SAP_MessageProcessingLogID}.xml
More (Enable Hana Logging)	Enables hana logging via OData.	X

5 STEPS FOR TESTING THE IFLOW

Step 1. Access the WEB UI URL on your SAP Cloud Platform Integration tenant.

It should be in the format <https://.hci.us1.hana.ondemand.com/itspaces>

Step 2. Place the file in the SFTP server using Filezilla or other FTP client in the designed directory

Filename	Filesize	Filetype	Last modified	Permission
..				
CUSTOMERS_FOR_DEMO.CSV	1,798	Microsoft Excel Comma Separate...	28/10/2019 08:54:53	-rwxr--r--
Error		File folder	18/09/2019 10:37:32	drwxr--r--
Logs		File folder	09/09/2019 13:13:24	drwxr--r--
Archive		File folder	09/09/2019 13:13:13	drwxr--r--

1 file and 3 directories. Total size: 1,798 bytes

Step 3. Configure iflow and deploy. The iflow should be deployed.

Step 4. Login to SAP Marketing Cloud and go to Import Monitor app. You should be able to see status of processed message.

If there is a message - fix an error and start process from the beginning.

API for Contacts	Size	Status
02/19/2020, 09:35:39	4	Success
02/19/2020, 03:50:13	1	Success
02/19/2020, 03:50:11	1	Success

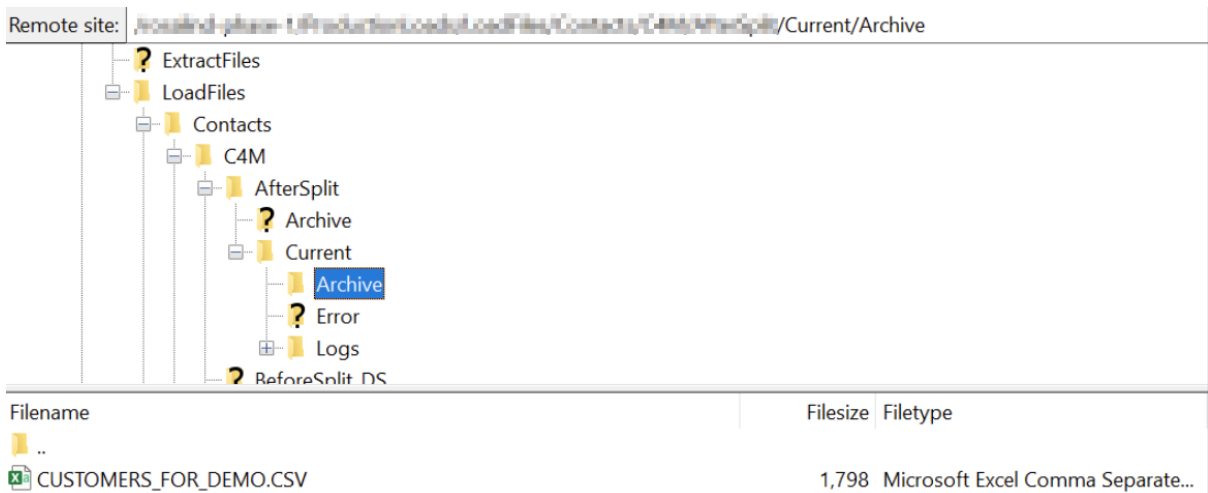
Import Notification	Timestamps	Status
Interface: OData	External: 02/19/2020, 09:35:39	Status: Success
Service Name: API_MKT_CONTACT_SR	External (UTC): 02/19/2020, 09:35:39	Successful: 4
Source System: GIGYA	Created: 02/19/2020, 09:35:39	
Source System Type: EXT	Changed: 02/19/2020, 09:35:47	
Created By: CC0000000001		
Reference: 'c643ac9c-d46c-4d57-		
Message ID: bae5-0197768		
Force: No		
Synchronous Processing:		

Step 5. Check the customer is created in the SAP Marketing Cloud Using the Fiori App "Inspect Contact"



Name	Communication Data	Address Data	Additional Facts
Daniella Wastesson Löfvenberg	wastessonlofvenberg@live.se +46733569229 +4643174959	Porfyrvägen 15 SE-26941 Ostra Karup Sweden	11/01/1971 Female

Step 6. Make sure source file has been moved to Archive folder after it has been processed.



Remote site: /osaiind-phase-1/Products/Loads/LoadFiles/Contacts/C4M/AfterSplit/Current/Archive

Filename	Filesize	Filetype
..		
CUSTOMERS_FOR_DEMO.CSV	1,798	Microsoft Excel Comma Separate...

Step 7. If hana_log parameter is "X" - check the HANA log table to see how many packets are successfully processed and how many packets failed.

Created	FileName	Packet	Status	Message	Id	Payload
31.10.2019 16:00:04	CUSTOMERS_FOR_DEMO.CSV	4	Success		311020191600004-4	<notification xmlns:sap="h
31.10.2019 16:00:05	CUSTOMERS_FOR_DEMO.CSV	8	Success		311020191600005-8	<notification xmlns:sap="h
31.10.2019 16:00:05	CUSTOMERS_FOR_DEMO.CSV	5	Success		311020191600005-5	<notification xmlns:sap="h
31.10.2019 16:00:05	CUSTOMERS_FOR_DEMO.CSV	1	Success		311020191600005-1	<notification xmlns:sap="h
31.10.2019 16:00:06	CUSTOMERS_FOR_DEMO.CSV	0	Success		311020191600006-0	<notification xmlns:sap="h
31.10.2019 16:00:24	CUSTOMERS_FOR_DEMO.CSV	3	Success		311020191600024-3	<notification xmlns:sap="h
31.10.2019 16:00:25	CUSTOMERS_FOR_DEMO.CSV	2	Success		311020191600025-2	<notification xmlns:sap="h

Step 8. Access the Monitor tab (Operations view) on the left side in the navigation for the "Integration Flow " to see the IFLOW processing status

Contacts Data Load From ThirdPartySftp To SAP Marketing Cloud Last Updated at: Jan 10, 2020, 10:05:08

[Status](#) [Properties](#) [Logs](#)

Message processing completed successfully.

Processing Time: 3 sec 833 ms

Properties

Message ID: AF4YTFFT7suzuW_ByCVBJuix3c_S
 Correlation ID: AF4YTFEmBg31c_Beedt6nRdVuVov

Artifact Name: [Contacts Data Load From ThirdPartySftp To SAP Marketing Cloud](#)
 Artifact ID: Z_Contacts_Data_Load_From_ThirdPartySftp_To_Cloud4Marketing
 Artifact Type: Integration Flow

Step 9. To make sure iflow has been processed in the right way - increase log to debug or trace and check detailed log.

