

Documation and Sage 300 Integration

Prepared for: Software Co. Ltd

Project: Two-way integration between Documation procurement and Sage 300 systems

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16/12/2019	1.1	Steve Bagnall
08/01/2020	1.2	Steve Bagnall
09/01/2019	1.3	Steve Bagnall

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1 System Overview

Software Co. has a procurement system named DOCUMATION (Software Co. Purchase Order Tool). There is a need to automate integration with Sage 300 in both directions.

	Direction	Data
1	Sage 300 to DOCUMATION	Specified data including Vendors, GL codes, Currency Rates, Tax Rates
2	DOCUMATION to Sage 300	Purchase invoices/Credits
3	Sage 300 to DOCUMATION	Confirmation of invoices/credits successfully created in Sage 300

This project is to automate the Purchase Invoice integration points (2 and 3).

The specified "static" data taken from Sage 300 to DOCUMATION (1) is handled by Software Co. for now but may be a future development of IMan integration.

The process is instigated either on an automated schedule, or manually by a user.

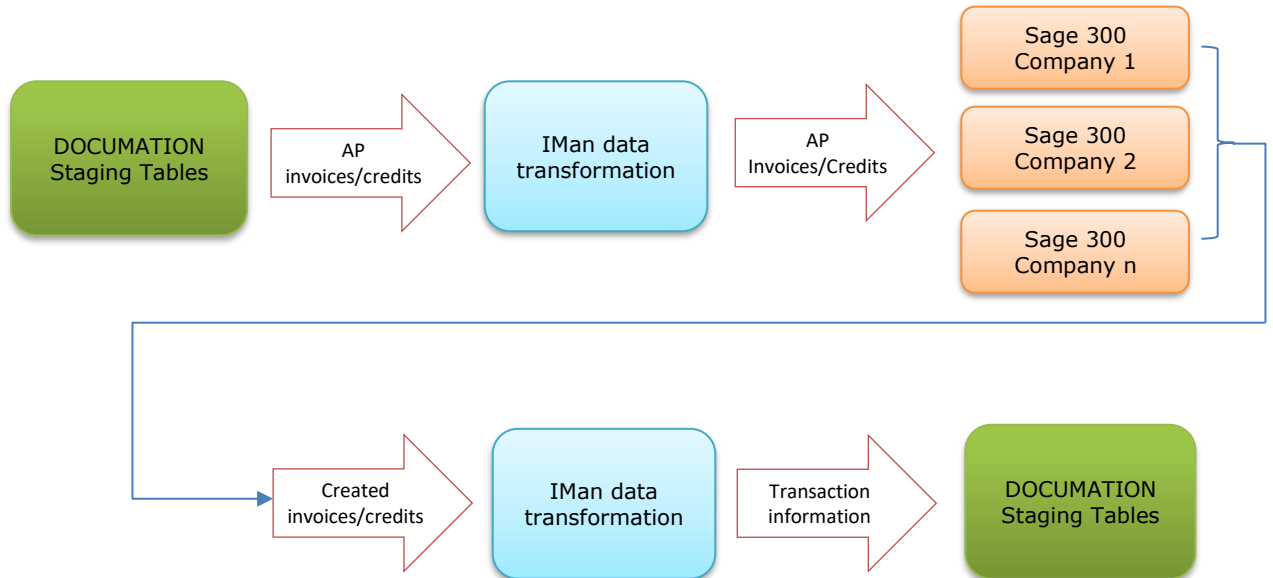
The general approach is to make use of an intermediary tool called IMan. This is a comprehensive data transformation tool that already understands Sage 300. It also handles scheduling, logging and notifications. The use of this tool will cut the development time down by at least 50%.

Note that the data targets are a multiple Sage 300 entities.

The data are received from DOCUMATION in a staging database.

The following simplified diagrams summarise the processing.

Invoices/Credits and Confirmation



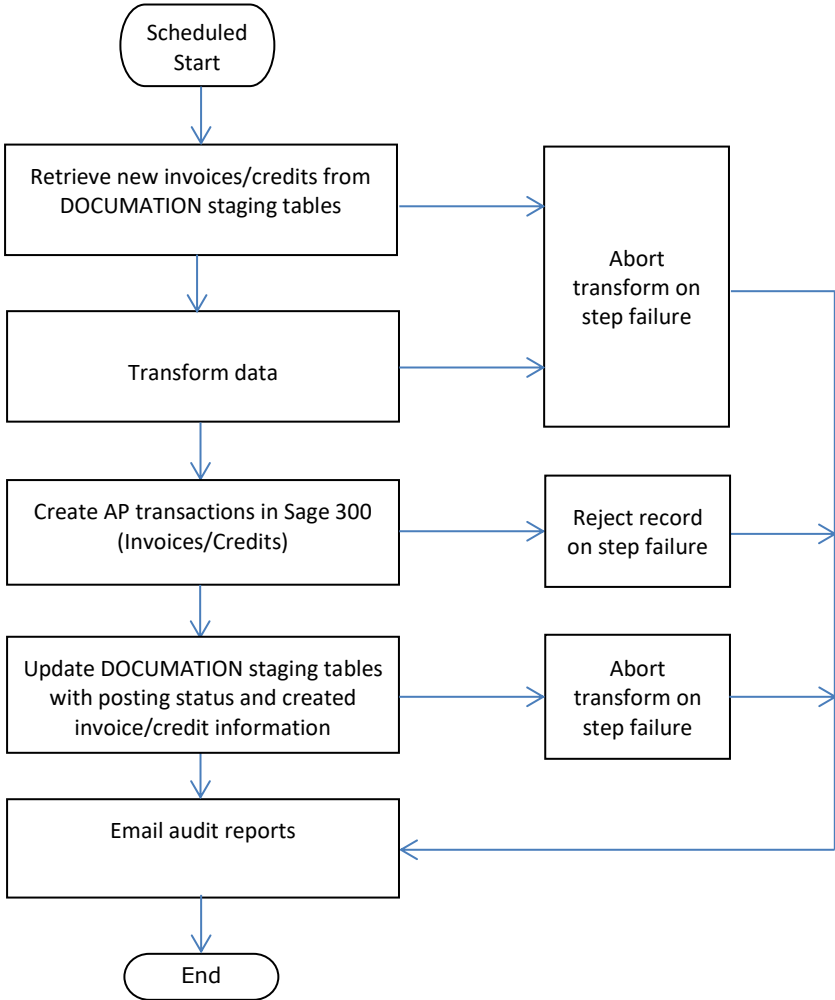
2 Process

2.1 Invoices/Credits

2.1.1 Overview

- The field IMSTRANSACTIONRETRIEVALREF in each table is the unique reference to the DOCUMATION invoice.
- Retrieve new invoices from the DOCUMATION AP invoice document staging tables. New records have a status of 'Ready to Post'.
- Transform to add/change data and hierarchise.
- Create invoice batches in Sage 300 company databases.
- Update the DOCUMATION posting confirmation table for all processed invoices, whether they had errors or not. This is always an insert to create new records (v1.3).
- Update the AP invoice document staging table record status to 'Posted'.

2.1.2 Process Flow



3 Integration – DOCUMATION Invoices to Sage 300

Integration Name:	DOCUMATION_Invoices
Purpose:	Get new purchase invoices from DOCUMATION staging tables. Process into Sage 300. Update DOCUMATION staging tables with invoices successfully processed to Sage 300.
Schedule:	Scheduled and manual on demand

3.1 DBRead_NewInvoices

Type: Database Read
Trasaction ID: AP_Transaction

Read new purchase invoice data from DOCUMATION staging tables

Query Text

```
SELECT
EXP_IMSAPDocuments.DLMReference,
EXP_IMSAPDocuments.CreationDate,
EXP_IMSAPDocuments.DocumentType,
EXP_IMSAPDocuments.IMSTRANSACTIONNUMBER,
EXP_IMSAPDocuments.IMSTRANSACTIONDATE,
EXP_IMSAPDocuments.FINST1ID,
EXP_IMSAPDocuments.FINST2ID,
EXP_IMSAPDocuments.IMGGOODSAMOUNT,
EXP_IMSAPDocuments.IMSTAXAMOUNT,
EXP_IMSAPDocuments.IMSTOTALAMOUNT,
EXP_IMSAPDocuments.IMSVENDORNUMBER,
EXP_IMSAPDocuments.IMSVENDORNAME,
EXP_IMSAPDocuments.IMSORDERNUMBER,
EXP_IMSAPDocuments.GLBUNIQUEDOCUMENTID,
EXP_IMSAPDocuments.GLBDOCUMENTREFERENCE,
EXP_IMSAPDocuments.IMSPAYMENTDUEDATE,
EXP_IMSAPDocuments.IMSDESCRIPTION,
EXP_IMSAPDocuments.IMSVOUCHERNUMBER,
EXP_IMSAPDocuments.IMSTRANSACTIONCURRENCY,
EXP_IMSAPDocuments.DOCUMENTURL,
EXP_IMSAPTransactionLines.IMSTRANSACTIONRETRIEVALREF,
EXP_IMSAPTransactionLines.IMGSLLEVEL1,
EXP_IMSAPTransactionLines.IMGSLLEVEL2,
EXP_IMSAPTransactionLines.IMGSLLEVEL3,
EXP_IMSAPTransactionLines.IMGSLLEVEL4,
EXP_IMSAPTransactionLines.IMGSLLEVEL5,
EXP_IMSAPTransactionLines.IMSLINEAMOUNT,
EXP_IMSAPTransactionLines.IMSLINETAXAMOUNT,
EXP_IMSAPTransactionLines.IMSTAXCODE,
EXP_IMSAPTransactionLines.IMSTAXRATE,
EXP_IMSAPTransactionLines.IMSLINETEXT,
EXP_IMSAPTransactionLines.IMSLINETOTALAMOUNT,
EXP_IMSAPTransactionLines.IMSLINETRANSACTIONTYPE,
EXP_IMSAPTransactionLines.IMSLINETRANSACTIONSIGN
FROM EXP_IMSAPDocuments INNER JOIN
    EXP_IMSAPTransactionLines
ON EXP_IMSAPDocuments.IMSTRANSACTIONRETRIEVALREF =
EXP_IMSAPTransactionLines.IMSTRANSACTIONRETRIEVALREF
WHERE IMSPOSTINGSTATUS='Ready to Post'
```


3.2 Map1

Type: Map

Various new and modified fields.

Transaction: AP_Transaction

Field	Notes	Result
Vendor_Tax_Group	Get Vendor tax group from AP Vendor record on %IMSVENDORNUMBER	Tax group ID
Vendor_Tax_Auth1	Get tax authority 1 from tax services tax group records. This is the vendor tax authority	Tax authority ID
Vendor_Tax_Class	Get Vendor tax class 1 from AP Vendor record on %IMSVENDORNUMBER	Vendor tax class number
Item_Tax_Class	Extract the item tax class part from %IMSTAXCODE	Item tax class number
TaxCalcLookupField	Construct the lookup field name from concatenation of "FLD" and the vendor tax class. EG: Tax class = "1" therefore field name = "FLD01"	Lookup field name
CalculateTax	Look up the 'calculate tax' value for the tax class from the <i>CalcTax</i> lookup. See <i>VATRegion</i> lookup table.	0 = Don't calculate 1 = Calculate
Batch_Description	Set the batch description as "Imported from Documation"	Batch description text
Signed_Line_Net_Total	Set the correct sign on the line total amount (%IMSLINEAMOUNT) by multiplying the line amount by a line transaction sign value (%IMSLINETRANSACTIONSIGN) (1 or -1). This is according to the information in the Documation table documentation.	Signed amount
Signed_Line_Tax_Amount	Set the correct sign on the line tax amount (%IMSLINETAXAMOUNT) by multiplying the line amount by a line transaction sign value (%IMSLINETRANSACTIONSIGN) (1 or -1). This is according to the information in the Documation table documentation.	Signed amount
Sage_Document_Type	Set the document type based on the value of %DocumentType	1 = Invoice 3 = Credit Note 99 = Unexpected
GL_Account	Concatenate the full GL account code from the five levels	GL account code
Batch_Number	Place holder for later write back	
Posting_Error	Place holder for later write back	

3.3 Hierarchy1

Type: Hierarchy

Create invoice batch, header, line hierarchy.

%FINST2ID	(AP_Transaction)
%FINST2ID + %IMSTRANSACTIONRETRIEVALREF	(Header)
%FINST2ID + %IMSTRANSACTIONRETRIEVALREF + %IMSVENDORNUMBER	(Lines)

3.4 AP_Invoice_Batches

Type: Sage 300 Connector

Create AP invoice batches in companies.

Add to audit record for emailing.

3.5 Map2

Various new and modified fields.

Transaction: AP0021 (Header)

Field	Notes	Result
Posting_CreationDate	Set to NOW() ready for update to staging tables	NOW()
Posting_CONFIRMATIONTYPE	Set to "Posting Confirmation" ready for update to staging tables	"Posting Confirmation"
Posting_IMSPOSTINGDATE	Set posting date ready for update to staging tables. If batch created without error, then retrieve the batch date from the batch number. Otherwise set to blank.	Date or blank
Posting_IMSPOSTINGSTATUS	Set value ready for update to staging tables. If batch created without error, then "Posting Confirmed". Otherwise "Posting Error".	"Posting Confirmed" or "Posting Error"
Posting_UpdatedBy	Set to "Software Co." ready for update to staging tables	"Software Co."
Posting_UpdatedOn	Set to NOW() ready for update to staging tables	NOW()
Posting_Flags	Set to "0" ready for update to staging tables	"0"
APDocs_Posted	Set to "Posted" ready for update to staging tables	"Posted"

3.6 Filter_HasBatch

Type: Filter

Filter in only where a batch has been created so that a valid posting date exists.

Transaction ID: AP0021
Filter: Trim(%CNTBTCH)<>""

3.7 DBWrite_PostConf1

Type: DB Writer

Insert to posting confirmations table in staging DB where a batch was created and therefore there is a valid posting date.

Database: Live DOCUMATION DB
Operation: Insert
Transaction: AP0021 (Header)
Table: RET_IMSPostingConfirmations

Field Mapping

From	To
INVCDESC	GLBUNIQUEDOCUMENTID
IDVEND	IMSVENDORNUMBER
IDINVC	IMSTRANSACTIONNUMBER
FINST2ID	IMSPOSTINGSID
SYS.ERROR	IMSPOSTINGERROR
CNTBTCH	IMSPOSTINGBATCHNUMBER
Posting_CreationDate	CreationDate
DocumentType	DocumentType
Posting_CONFIRMATIONTYPE	CONFIRMATIONTYPE
Posting_IMSPOSTINGDATE	IMSPOSTINGDATE
Posting_IMSPOSTINGSTATUS	IMSPOSTINGSTATUS
Posting_UpdatedBy	UpdatedBy
Posting_UpdatedOn	Updatedon
Posting_Flags	Flags
IMSTRANSACTIONRETRIEVALREF	IMSTRANSACTIONRETRIEVALREF

3.8 Filter_NoBatch

Type: Filter

Filter in where no batch has been created and there is NOT a valid posting date.

Transaction ID: AP0021
Filter: Trim(%CNTBTCH)=""

3.9 DBWrite_PostConf2

Type: DB Writer

Insert to posting confirmations table in staging DB where a batch was NOT created and therefore the posting date is set to NULL.

Database: Live DOCUMENTATION DB
Operation: Insert
Transaction: AP0021 (Header)
Table: RET_IMSPostingConfirmations

Field Mapping

From	To	SQL Command
INVCDESC	GLBUNIQUEDOCUMENTID	
IDVEND	IMSVENDORNUMBER	
IDINVC	IMSTRANSACTIONNUMBER	
FINST2ID	IMSPOSTINGSID	
SYS.ERROR	IMSPOSTINGERROR	
CNTBTCH	IMSPOSTINGBATCHNUMBER	
Posting_CreationDate	CreationDate	
Posting_DocumentType	DocumentType	
Posting_CONFIRMATIONTYPE	CONFIRMATIONTYPE	
Posting_IMSPostingDATE	IMSPOSTINGDATE	NULL
Posting_IMSPostingSTATUS	IMSPOSTINGSTATUS	
Posting_UpdatedBy	UpdatedBy	
Posting_UpdatedOn	Updatedon	
Posting_Flags	Flags	
IMSTRANSACTIONRETRIEVALREF	IMSTRANSACTIONRETRIEVALREF	

3.10 DBWrite_APDocs

Type: DB Writer

Update AP Document table in staging DB.

Database: Live DOCUMATION DB
Operation: Update
Transaction: AP0021 (Header)
Table: EXP_IMSAPDocuments
Where: IMSTRANSACTIONRETRIEVALREF=%IMSTRANSACTIONRETRIEVALREF

Field Mapping

From	To
APDocs_Posted	IMSPOSTINGSTATUS

4 Lookup Tables

4.1 VATRegion (Calculate tax for VAT Regions by Sage Company-Tax Authority)

Contains a value to indicate whether a vendor tax class should have the tax amounts calculated or not.

0 = Don't calculate

1 = Calculate

The value is used to set "calculate tax base" on the AP invoice.

Each Sage 300 company can potentially have multiple tax authorities. Therefore the unique ID value to look up is a combination of Sage company database ID and the tax authority ID. For example SD40-UKGBP.

Field	Label	Purpose	Values
ID	ID	Sage 300 Company ID-Tax Authority	
LKUPRESULT	NotUsed	Not used	
FLD01	VendorClass1	Flags whether to calculate tax for tax class 1	0 = Don't calculate 1 = Calculate
FLD02	VendorClass2	Flags whether to calculate tax for tax class 2	0 = Don't calculate 1 = Calculate
FLD03	VendorClass3	Flags whether to calculate tax for tax class 3	0 = Don't calculate 1 = Calculate
FLD04	VendorClass4	Flags whether to calculate tax for tax class 4	0 = Don't calculate 1 = Calculate
FLD05	VendorClass5	Flags whether to calculate tax for tax class 5	0 = Don't calculate 1 = Calculate

5 Procedures for a New Software Co. Sage 300 Entity

List of included Sage 300 entities

Sage 300 Org Name	Company Name	SQL DB Name
SD07	Software Co. Group Plc	Sage300_SD07
SD40	Software Co. Ltd	Sage300_SD40
SD41	Software Co. Green Ltd	Sage300_SD41
SD42	Software Development Ltd	Sage300_SD42
SD44	Software Co. Red Ltd	Sage300_SD44
SD46	Software Design Ltd	Sage300_SD46
SD49	Software Canada Ltd	Sage300_SD49
SD50	Software India Private Ltd	Sage300_SD50
SD52	Software Co. Blue Ltd	Sage300_SD52
SD53	Software Co. Yellow Ltd	Sage300_SD53
SD54	Software Co. White Ltd	Sage300_SD54

- Activate EFT module in the Sage 300 entity.
- Add User Authorisations for IMAN Sage 300 user
- Add a new Database Connection in IMan.
- Add a new Sage 300 System Connector in IMan.
- Add entry(ies) to VATRegion lookup.