



V1 Document Management

EDD for Sage X3 by V1

Electronic Document Delivery

EDM for Sage X3 by V1

Electronic Document Management

PIA for Sage X3 by V1

Purchase Invoice Automation

SOA for Sage X3 by V1

Sales Order Automation

Release 12.1

Technical Solution Guide

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Contents

1.	Introduction	4
2.	Installation	5
2.1	Registry.....	6
2.2	Language	7
2.3	Licences	8
2.3.1	Examples	9
2.3.2	Summary	10
2.4	System Info / Path selection	11
2.5	Server Installation	11
2.6	Client installation	11
2.7	Initial Setup	12
2.8	Folder Setup	13
2.9	EDM Setup.....	14
2.10	Email Setup	16
2.11	Fax Setup	17
2.12	Print Setup	18
2.13	OCR Setup.....	19
2.14	Client Setup.....	20
3.	DbForm	21
3.1	EDD.....	21
3.2	EDM.....	21
3.3	PIA / SOA	21
4.	Web-Services	22
4.1	How they work	22
4.1.1	V6.5 / PU8	22
4.1.2	PU9 / V11	22
4.2	Where to find them.....	23
4.2.1	Definition	23
4.2.2	Mapping	23
4.3	How they're used	23
4.3.1	To request information from Sage X3 (a lookup)	23
4.3.2	Commit data to the Sage X3 database	25
4.4	How they're configured	26

5.	EDD.....	27
5.1	Sage X3 Reports.....	27
5.2	DbMail – Emailing	28
5.3	DbFax – Faxing.....	28
5.4	Printing – EDMPrintManagement.....	29
5.5	Example scenarios.....	30
5.5.1	AUTO Destination	30
5.5.2	EMAILONLY Destination.....	30
6.	EDM.....	31
6.1	DbArchive	31
6.2	Database.....	31
6.3	DbDeposit.....	32
6.4	DbWebQuery.....	32
6.5	DbScanner	32
6.6	Enclosures	33
6.7	EDM Enquiry.....	34
6.8	Print to the Sage X3 ARCHIVE destination	35
7.	PIA / SOA.....	36
7.1	DbCapture	36
7.2	Database.....	36
7.3	Registry.....	36
7.4	Validation	37
7.5	Export	37
7.6	Profiles.....	38
7.7	OCRIMPORT.....	39
7.8	DbMailExtractor	40

1. Introduction

This document aims to succinctly cover the EDM solution for Sage X3 from a technical stand-point.

It is aimed at a technical audience with knowledge of Sage X3 and its architecture. It is recommended that the EDM solution is only installed by personnel who have followed the EDM for Sage X3 training course.

You are encouraged to bookmark the Portal which is regularly updated with information about the release:

<http://support.wearev1.com/software/x3/X3EDMHELP/index.htm>

2. Installation

When installing EDM solution for Sage X3 you should always visit the portal and download the latest release of the software.

Before you start, you need to fulfil all the pre-requisites on the Sage X3 Application server (where EDM **must** be installed) and in each of the Sage X3 Folders / Endpoints where EDM will be used.

If any of the pre-requisites are missed or skipped you are likely to encounter problems that can be time-consuming to address later.

You'll also need your EDM licenses from Sage. These are normally delivered via email or download. If you have purchased the PIA solution in addition to the EDM solution, you should also receive an activation code for the OCR engine via email.

Only with a combination of your licenses, the downloaded software and fulfilled pre-requisites can you successfully complete the installation.

You will need to setup:

- At least one printer which you need to share so it is visible via Windows Explorer on the Sage X3 application server.
You must share it so that it is visible using the same credentials as used by the X3 runtime user.
- At least one barcode printer which you need to share so it is visible via Windows Explorer on the Sage X3 application server.
You must share it so that it is visible using the same credentials as used by the X3 runtime user.

You will need to know:

- The location of the solution.xml file
 - This is read by the installer to get information about the environment
- The server and credentials for accessing Syracuse (only if using PU9 and later releases)
- The Sage X3 Folders / Endpoints you're going to be patching for use with the EDM solution
 - PU8 / V6.5 – The Apache username and password for each Sage X3 Folder
 - PU9 / V11 – The credentials for Syracuse for each Sage X3 Endpoint
- The Email Server and credentials for mailboxes to be used
 - An administrative address used to be told about issues with the system
 - If licensed for PIA, a mailbox that will be used to receive incoming PDF invoices.
- The COM port for the Fax Modem attached to the Sage X3 Application server (if applicable)

2.1 Registry

The Windows registry is used to store all the settings used by the setup program. The key is located here on the Sage X3 Application server:

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\X3Integration

Analysis of this will show experienced engineers what has been installed / configured, but do NOT edit it manually. It holds a snapshot of the system as it stands, so if you edit it outside of the setup program, the installation will fail and it can be very difficult to recover from.

2.2 Language

When you first load the installation program, you're asked for the language. When selecting this, it commits to the Registry:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\X3Integration\language
```

This is a 3-letter language code, e.g. ENG, FRA, POR etc. You should select the main language of the end-user

This choice is then used as the language of the UI, chooses which display names of all database fields, messages and errors in all areas of the system are to be used. (More details on how this works in later chapters.)

2.3 Licences






















The EDM solution licences consist of 3 types of files and in some cases some activation codes:

- *.key/*.lic
 - A Key file is for a Server component. Each Server Component has one and they tell the V1 services who the licensed user is and what capability they have paid for.
- *.cal
 - A CAL file is for a client component. Each Client Component has one and they tell DbLogin (the V1 authentication module) how many users can use them.
- *.exe
 - In the case of the optional fax server pre-patched binaries are supplied for the relevant number of fax lines.

NOTE: the inclusion of exe files can cause a ZIP file of licences to be blocked by email servers. In this event you can request a replacement download from the V1 support desk.

- OCR Licence
 - Only applicable to PIA / SOA, ABBYY Fine-reader is the 'engine' that powers the OCR capability. It is a separately licensed component and comes in the form of 24 digit code in the same email you receive with the cals / keys as an attachment. The Sage X3 Application server will need an internet connection to activate it as this is done via an online connection to ABBYY
- VRS Licence
 - VRS is an optional component recommended to improve the recognition of barcodes from scanned images and to automatically adjust the scanner for difficult coloured documents. It can be provided by V1, but is generally purchased with the scanner.

2.3.1 Examples

-  BlobTypeManager.cal
-  dbarchive.key
-  dbcapture.key
-  DbCaptureAdmin.cal
-  DbCaptureClient.cal
-  DbConsole.cal
-  DbDeposit.cal
-  DbFax.cal
-  DbFax.exe
-  dbfaxd.exe
-  dbform.key
-  dbform.lic
-  DbLoginManager.cal
-  DbMail.key
-  DbMailAdmin.cal
-  DbScanner.cal
-  DbSV.lic
-  DbWebQuery.cal
-  default.id
-  pia.key
-  soa.key

The setup program will prompt for these and based on what it finds prompts you to install only those elements. So for instance, if it only finds pia.key and not soa.key, it won't install the components needed for SOA. If it doesn't find DbDeposit.cal, you won't get prompted to install it and so on.

2.3.2 Summary

Required for EDD only installations:

dbmail.key
dbform.key
dbform.lic
DbSV.lic
DbLoginManager.cal
DbMailAdmin.cal

Required for optional fax server:

DbFax.exe
dbfaxd.exe
default.id
DbFax.cal

Required for EDM installations:

DbArchive.key
dbmail.key
dbform.key
dbform.lic
DbSV.lic
DbLoginManager.cal
DbMailAdmin.cal
DbConsole.cal
BLOBTypeManager.cal
DbWebQuery.cal

Required for optional External Users / Deposit clients:

DbDeposit.cal

Required for optional scanstation:

DbScanner.cal + activation code for optional VRS licence

Required for the PIA solution:

pia.key
DbCapture.key
DbCaptureAdmin.cal
DbCaptureClient.cal + activation code for OCR licence

Required for the SOA solution:

soa.key
DbCapture.key
DbCaptureAdmin.cal
DbCaptureClient.cal + activation code for OCR licence

2.4 System Info / Path selection

The same setup program is used for both server and client installations.

2.5 Server Installation

Displaying information about the server such as RAM, disk-space and processor, ensure you select the right version of Sage X3 you're installing against.

You will also be prompted for the location to install the server components and any clients you want to install on the server.

- Because PIA / SOA particularly require considerable resources, you will not be able to install anything unless the server has at least 8 GB of RAM. This cannot be bypassed.

Once confirmed, all these settings are stored in the registry:

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\X3Integration\X3Install
Where the distribution path is

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\X3Integration\X3VERSION
What version of Sage X3 you selected

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\X3Integration\ServerPath
Where the server components are going to be installed

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\X3Integration\ClientPath
Where the client components are going to be installed

2.6 Client installation

You're prompted where you want to install the clients.

At least the Initial Setup must have been completed before clients can be installed.

You're presented with a 'Check' button. Clicking this instigates a TCP-IP conversation with the server's authentication module DbLogin on port 32000.

It does this by triggering a binary (DBLUQuery.exe) and parameters to return details of calcs it finds in a calcs.xml file. It then presents you with only those it finds to install:

```
DbLUQuery.exe -s SERVERNAME -c cal -n %UserProfileDir%\calcs.xml "
```

The SERVERNAME is whatever you entered. You're advised to use the IP address.


2.7 Initial Setup

As its name suggests, this installs the baseline components and copies files beneath the chosen Server Installation path ready to be configured by the following chapters.

Install:

\DbLogin
\DBPDF
\Documentation
\Process

Service:

 DbLogin: Authentication Server

DbLogin consolidates the management and configuration of the EDM products


Requiring the TCP/IP port 32000

\DbLogin (this includes the language specific files based on your selection)

Registry:

HKEY_LOCAL_MACHINE\SOFTWARE\Version One\DbLogin
HKEY_LOCAL_MACHINE \SYSTEM\ControlSet001\Services\DbLoginServer

Service:

 EDM Apache

Apache/2.2.15 (Win32) Axis2C/1.6.0

Requiring the TCP-IP port 31491, this serves the image viewer and manages the Apache requests via web-service between Sage X3 and EDM.

Environment Variable:

PATH	\Process\axis2c-bin-1.6.0-win32\lib
------	-------------------------------------

2.8 Folder Setup

Based on the XXX_XXX_poolgetdef_reply.xml (created by the SAFE X3 Console or manually as per the installation guide), this file gives details about the setup of the Sage X3 web-server. You are prompted for the authentication for each Sage X3 Folder / Endpoint pool alias.

PU8 / V6.5 - The username and password are the credentials for Apache
PU9 / V11 - The username and password are the credentials for Syracuse

When confirmed, the SOAP files are configured for each based on the version of Sage X3 selected.

Details on this covered on later chapters.

2.9 EDM Setup

This installs, configures and initialises the EDM database (DbArchive).
Confirm the Database Type, whether SQL or Oracle.

▶ SQL Server

Clicking List fires the native smo .NET capability to query the local area network for SQL Server instances visible to the Sage Application server.

Confirm the authentication type, Windows or SQL (SQL is recommended)

Confirm the credentials

Confirm the name of the SQL Server database to be created

Clicking Test will again use the native smo .NET capability to test the connectivity

Install:

DSN Driver used is 'SQL Server'
\DbArchive

Key Files:

DbArchive.ini:

```
[SETTINGS]
HOMEDIR="c:\v1\DbArchive"
SVIEWDIR="c:\v1\DbArchive"
DBFORM="c:\v1\DbArchive\bin\dbform.exe"
FLATTENBLOBS=1
DbLoginServerName=X3PU9TRAINVM
DbLoginServerPort=32000
FAXDIR="c:\v1\DbFax\"
FAXCMD="c:\v1\DbFax\dbsvtiffax.exe"
EMAILDIR="c:\v1\DbMail\"
EMAILCMD="c:\v1\DbMail\dbsvtiffmail.exe"
odbcconnectionname=X3EDM_DSN_CONNECTION
odbcusername="XX"
odbcpassword="XX"
debug=1
```

\DbArchive*.def

\DbArchive\V1_SETTINGS.def

Contains all settings needed by the system not stored in the registry. Use caution if modifying this file, it is used as an include used by all other *.def files.

▶ Oracle

NOTE: Only Oracle 11g is supported by the current release.

Confirm the credentials

Confirm the name of the Oracle Database that has been created

Key Files:

\V1\DbArchive\DbArchive.ini:


```
[SETTINGS]
HOMEDIR="c:\v1\DbArchive"
SVIEWDIR="c:\v1\DbArchive"
DBFORM="c:\v1\DbArchive\bin\dbform.exe"
FLATTENBLOBS=1
DbLoginServerName=X3PU9TRAINVM
DbLoginServerPort=32000
FAXDIR="c:\v1\DbFax\"
FAXCMD="c:\v1\DbFax\dbsvtiffax.exe"
EMAILDIR="c:\v1\DbMail\"
EMAILCMD="c:\v1\DbMail\dbsvtiffmail.exe"
oracledbname=X3EDM_DB
oracleusername="XX"
oraclepassword="XX"
debug=1
```

\DbArchive*.def


\DbArchive\V1_SETTINGS.def

Contains all settings needed by the system not stored in the registry. Use caution if modifying this file, it is used as an include used by all other *.def file.

Services:

 DbArchive: Write

DbArchive Server

 DbArchive: Query

DbArchive Server

2.10 Email Setup

This installs and configures the mail relaying facility.

Install:

\DbMail

Key Files:

\V1\DbMail\DbMailSend.exe

Binary triggered to send an email with the right parameters

\%SystemRoot%\DbMail.ini

[smtp]

;Mailserver name/port

MailHost=XX

MailPort=25

\DbPDF\DBPDF.def

This file is triggered to send the emails from the associated Sage X3 report which therein fires DbMailSend.exe.

2.11 Fax Setup

This installs and configures the fax relaying facility.

Install:

\DbFax

Key Files:

\DbFax\bin\dbsvtiffax.exe

Binary triggered to send a fax with the right parameters

\DbFax\DbModem.ini

Contains settings for the modem(s) to be used

\DbFax\bin\DbModem.exe

Run this from the cmd line to recompile any changes to DbModem.ini

\DbPDF\gs\gs9.05\bin\gswin32c.exe

Converts a PDF to a faxable tiff

\\%SystemRoot%\DbFax.ini

[Environment]



DBfaxDirectory=c:\v1\DbFax\

DBfaxspooldirectory=c:\v1\DbFax\spool\

\DbPDF\DBPDF.def

This file is triggered to send the faxes from the associated Sage X3 report which therein fires dbsvtiffax.exe.

Services:

 DbFax Scheduler
 DbFax: Connection Server

The DbFax Scheduler (DbFaxd) is the service which physically communicates with the modem and sends the faxes
This service allows clients to have connectivity to the fax server

2.12 Print Setup

This installs and configures the printing of barcodes and transactional PDF documents that have been neither emailed nor faxed.

Install:

\EDMPrintManagement

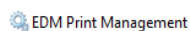
Key Files:

\EDMPrintManagement\EDMPrintManagement.exe

\EDMPrintManagement\EDMPrintManagement.ini

```
[dbcheck]
debug-mode=0
cmd1-name=c:\v1\EDMPrintManagement\Print_Pickup_TRANSDEFAULT.def
cmd1-cmd=c:\v1\DbForm\bin\DbForm.exe -l c:\v1\logs\Print_Pickup_TRANSDEFAULT.log
c:\v1\EDMPrintManagement\Print_Pickup_TRANSDEFAULT.def c:\v1\EDMPrintManagement\Print_Pickup_TRANSDEFAULT.def %1
cmd1-Delete-file=0
cmd1-wait-finish=1
cmd1-make-Copy= 0
cmd1-wait-time=10
cmd2-name=c:\v1\EDMPrintManagement\Print_Pickup_BARCODEDEFAULT.def
cmd2-cmd=c:\v1\DbForm\bin\DbForm.exe -l c:\v1\logs\Print_Pickup_BARCODEDEFAULT.log
c:\v1\EDMPrintManagement\Print_Pickup_BARCODEDEFAULT.def c:\v1\EDMPrintManagement\Print_Pickup_BARCODEDEFAULT.def %1
cmd2-Delete-file=0
cmd2-wait-finish=1
cmd2-make-Copy= 0
cmd2-wait-time=1
cmd3-name=c:\v1\EDMPrintManagement\Print_Pickup_TRANSUSERS.def
cmd3-cmd=c:\v1\DbForm\bin\DbForm.exe -l c:\v1\logs\Print_Pickup_TRANSUSERS.log
c:\v1\EDMPrintManagement\Print_Pickup_TRANSUSERS.def c:\v1\EDMPrintManagement\Print_Pickup_TRANSUSERS.def %1
cmd3-Delete-file=0
cmd3-wait-finish=1
cmd3-make-Copy= 0
cmd3-wait-time=10
cmd4-name=c:\v1\EDMPrintManagement\Print_Pickup_BARCODEUSERS.def
cmd4-cmd=c:\v1\DbForm\bin\DbForm.exe -l c:\v1\logs\Print_Pickup_BARCODEUSERS.log
c:\v1\EDMPrintManagement\Print_Pickup_BARCODEUSERS.def c:\v1\EDMPrintManagement\Print_Pickup_BARCODEUSERS.def %1
cmd4-Delete-file=0
cmd4-wait-finish=1
cmd4-make-Copy= 0
cmd4-wait-time=1
```

Service:



Manages the printing of out-bound Sage X3 transactional documents / in-bound Barcode Printing via the EDM solution

2.13 OCR Setup


This installs, configures and initialises the OCR database (DbCapture) and the email address to be polled for electronic Invoice attachments.

Install:

\\DbCapture


Services:

ABBYY:


 ABBYY FineReader Engine 10 - Licensing Service

This service is required for the operation of the ABBYY FineReader Engine 10 licensing mechanism.


DbCapture:

 DbCapture: Primary Communication Service

This service is the Primary DbCapture Communication process on port 31450

 DbCapture: Secondary Communication Service

This service is the Secondary DbCapture Communication process on port 31451.

 DbCapture: Tertiary Communication Service

This service is the Tertiary DbCapture Communication process on port 31452. Fo

▶ Configuration


If EDM is not installed, it is possible to install PIA / SOA on a separate server to the Sage X3 Application (although this is not recommended) so confirmation of it's DNS is required.

▶ Email Address for PDF Polling

A dedicated service (details later in this document) that poll the email address you provide for PDF attachments which when found are automatically imported into DbCapture.

The service name is meaningful based on your selection to allow you to see what is being used and in case multiple addresses are required post installation.

Service:

 DbCapture: PDF Email Extractor - pdf@wearev1.com

Polls mailbox to extract PDFs

2.14 Client Setup

For any clients needed to be installed on the server.

You are advised to install at least the *Admin clients on the server, however for testing purposes installing them all is recommended.

See 2.6 for more details.

3. DbForm

DbForm is the proprietary command line based scripting language unique to V1 used by the EDM solution to talk to its own components, create payloads and issue commands to the operating system to perform tasks.

Think of it like 4GL that Sage X3 uses, it's the language that powers the hidden activity.

The script files DbForm uses are named 'def files' (as their syntax is .def) and these def files are the scripts that perform the various activities throughout the EDM solution.

Think of def files like 4GL src files, they contain the code that does the work the users then see / do / use.

More details on all the def files and what they do are in the following chapters.

The following def files apply to each area of the system:

3.1 EDD

\V1\DBPDF.def

3.2 EDM

\V1\DbArchive\V1X3_V1<X3OBJECT>.def

3.3 PIA / SOA

\V1\DbCapture\defs*.def

4. Web-Services

4.1 How they work

4.1.1 V6.5 / PU8

Configured by the SAFE X3 Console during the pre-requisites, each Sage X3 Folder requires a Pool Alias.

This pool alias must be named:

X3EDM<FOLDERNAME>

This is the gateway to allow the EDM solution to communicate with the data in the Sage X3 database.

To authenticate this communication, the setup program created and configured soap files.

V1 provide a binary called httpost.exe (a version of which is specific to V6.5 / PU8) which with the right parameters in conjunction with a soap file and payload can swop data with Sage X3 via the Pool Alias on the command line.

Beneath the \V1\Process directory on the Sage X3 application server are subdirectories for each Sage X3 Folder. In each contains all the files required to communicate with that Folder.

4.1.2 PU9 / V11

Configured from within the Sage X3 interface during the pre-requisites, each Sage X3 Endpoint requires a ClassicPool alias.

This pool alias must be named:

X3EDM<ENDPOINTNAME>

This is the gateway to allow the EDM solution to communicate with the data in the Sage X3 database.

To authenticate this communication, the setup program created and configured soap files.

V1 provide a binary called httpost.exe (a version of which is specific to PU9/V11) which with the right parameters in conjunction with a soap file and payload can swop data with Sage X3 via the Pool Alias on the command line.

Beneath the \V1\Process directory on the Sage X3 application server are subdirectories for each Sage X3 Endpoint. In each contains all the files required to communicate with that Endpoint.

4.2 Where to find them

Login to the Sage X3 Folder / Endpoint patched for use with EDD / EDM / PIA / SOA

Go to the GESAWA function

In the Publication column, filter for XV1*

Click on each one and the description is the literal explanation of it's role.

4.2.1 Definition

This tab tells you the sub-program and script process with the code therein

4.2.2 Mapping

Typically containing only 2 groups:

GRP1 is what is passed in (by the definition file creating the payload)

GRP2 is what is returned as the reply

4.3 How they're used

They're used in 2 ways:

4.3.1 To request information from Sage X3 (a lookup)

If we take EDM as an example.

I want to deposit a Sales Order using the Deposit client.

I load DbDeposit and select the Sales Order table

As prompted, I select my Sage X3 Folder / Endpoint and enter the Sales Order number from Sage X3 I want to deposit the document against

There are 10 fields that need to be populated, so a lookup is required to validate the order number entered and complete the additional fields automatically.

When you click the lookup button, this fires the DbForm script V1X3_V1SOH.def

Code in this file performs the following steps:

- Creates a small XML payload with the Sales Order number
- Makes a call to a batch file in turn containing a call to httpost.exe with parameters including the soap file (to authenticate the request), the payload which has been created, the pool-alias it wants to use and the web-service added via the EDM patches (XV1SOHLU). The action of doing this will return the information about the Sales Order in a XML reply.
- The reply is formatted and interpreted by the same def file, sent to the DbDeposit client as tag information and displayed for the user.

This exact principal is the same for every lookup whether it be EDD / EDM / PIA or SOA.

Here is an example:

SEEDCallSOAPV1.bat

```
@echo off
setlocal
set MYDIR=%~dp0
set FUNCTION=%1
set PAYLOAD=%~2
set XMLOUT=%3
set POOLALIAS=%4
set AXIS=c:\v1\Process\axis2c-bin-1.6.0-win32
set FOLDERDIR=c:\v1\Process\SEED
%MYDIR%\httpost -O nocookies -O noredir -O noauth -x resultXml -X "%XMLOUT%" -vvv
-e5 -s "%FOLDERDIR%\SEEDLOOKUPV1.soap" FUNCTION=%FUNCTION% #PAYLOAD=@%PAYLOAD%
POOLALIAS=%POOLALIAS%
```

Usage:

```
SEEDcallSoapV1.bat Xv1SOHLU "+V1_TEMP_DIR+" "+RANDOMSTAMP+" "+INV_NO+" _SOHLOOKUP.xml
"+V1_TEMP_DIR+" "+RANDOMSTAMP+" "+INV_NO+" _SOHLOOKUPRESULT.xml X3EDM"+X3FOLDER
```


4.3.2 Commit data to the Sage X3 database

If we take PIA as an example.

I want to create a Purchase Invoice in Sage X3 using DbCapture.

I load DbCapture Admin and select the Purchase Invoice profile

Having selected the Sage X3 Folder / Endpoint, I process the data requested

When satisfied, click the Accept button

When you click the Accept button, it triggers the export DbForm def file

This contains code, similarly to the lookup, to firstly construct a XML payload with the data required to create the Invoice it's obtained from the DbCapture extraction process

Again similar to the lookup, a batch file is triggered calling a batch file for httppost.exe, but using a different soap file allowing the use of SSO and the email address of the DbLogin user (which must be aligned with the same user in Sage X3) to authenticate

Here is an example:

SEEDCallSOAPV1.bat

```
@echo off
setlocal
set MYDIR=%~dp0
set FUNCTION=%1
set PAYLOAD=%~2
set XMLOUT=%3
set POOLALIAS=%4
set AXIS=c:\v1\Process\axis2c-bin-1.6.0-win32
set FOLDERDIR=c:\v1\Process\SEED
%MYDIR%\httpost -O nocookies -O noredir -O noauth -x resultXml -X "%XMLOUT%" -vvv
-e5 -s "%FOLDERDIR%\SEEDLOOKUPSV1.soap" FUNCTION=%FUNCTION% #PAYLOAD=@%PAYLOAD%
POOLALIAS=%POOLALIAS%
```

Usage:

```
SEEDcallSoapV1.bat Xv1SOHLU "+V1_TEMP_DIR+" "+RANDOMSTAMP+" "+INV_NO+"_SOHLOOKUP.xml
"+V1_TEMP_DIR+" "+RANDOMSTAMP+" "+INV_NO+"_SOHLOOKUPRESULT.xml X3EDM"+X3FOLDER
```

This exact principle is the same for every commit whether it be PIA or SOA.

4.4 How they're configured

As in the previous chapter, they're configured by the setup program.

The principal is there are soap files for *each* Sage X3 Folder / Endpoint beneath the V1 Server installation path and in a sub-directory off the \Process directory.

So for example, if you had a SEED Sage X3 Endpoint:

\Process\SEED

Beneath which are ALL the files used in communicating with Sage X3.

```
POST soap-generic/syracuse/collaboration/syracuse/CAdxWebServiceXmlCC HTTP/1.1
Accept-Encoding: identity
Content-Type: text/xml;charset=UTF-8
SOAPAction: ""
Authorization: Basic QURNSU46YWRTaW4=
Content-Length: 1034
Host: http://X3PU9TRAINVM:8124/
Connection: Keep-Alive
User-Agent: Apache-HttpClient/4.1.1 (java 1.5)

<soapenv:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:wss="http://www.adonix.com/WSS">
  <soapenv:Header/>
  <soapenv:Body>
    <wss:run soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">
      <callContext xsi:type="wss:CAdxCallContext">
        <codeLang xsi:type="xsd:string">ENG</codeLang>
        <poolAlias xsi:type="xsd:string">&&POOLALIAS&&</poolAlias>
        <poolId xsi:type="xsd:string"></poolId>
        <requestConfig xsi:type="xsd:string"></requestConfig>
      </callContext>
      <publicName xsi:type="xsd:string">&&FUNCTION&&</publicName>
      <inputXml xsi:type="xsd:string"><![CDATA[&&PAYLOAD&&]]></inputXml>
    </wss:run>
  </soapenv:Body>
</soapenv:Envelope>
```

The text **in red** is configured by the setup program based on your input.

If ANY of these details change in the Sage X3 environment, those changes must be reflected in these files for the system to continue to function.

PU9 / V11: The `Authorization` authentication is the Base64 encoded username and password to access Syracuse. The user and password are separated by a `:` and this too is included in that authentication. A useful website is <https://www.base64encode.org/> which can be used to encode / decode accordingly. So for instance, if your Syracuse user was `pete` and a password of `123`, it would be:

`pete:123` which is encoded as `cGV0ZT0xMjM=` so this is the value you would have in the soap file.

5. EDD

Electronic Document Distribution is the means to send outbound documents directly from Sage X3 via email, fax or print them.

It is not a printer driver like many other add-ons, but a specific integration into Sage X3 allowing on the fly interaction with the documents it produces.

The following chapters explain in detail how this works.

5.1 Sage X3 Reports

Sage X3 uses a Crystal Report engine to produce PDF copies of transactions.

These PDF's are then attached to emails to be distributed, converted to faxable tiffs to be faxed or copied to PDF enabled printers.

In order to do this, 'tags' are added to any report that is to be used in conjunction with EDD. These tags instruct EDD where and how to send the document.

The patch includes the following report:

BONCDE2AUTO

RELFACAUTO

SBONFACAUTO

ARCCLIENT2AUTO

DEVICLIENT2AUTO

These are based on the standard reports minus the word 'AUTO', auto is indicative of 'automatically' distributing.

You are advised to open the sample reports and note the content and location of the V1TAGS formulae.

EDD is highly configurable. Although the standard solution is fully functional, it is quite normal for a small amount of PM time to properly establish exact behavior.

More details on the specific adjustments required can be found on the portal, FAQs, TIPS AND ADDITIONAL INFORMATION > Crystal Report Changes.

5.2 DbMail – Emailing



Supporting SMTP, documents can be emailed directly from Sage X3.

Once the PDF has been generated and copied to C:\temp, XV1SPEARC fires RunPDF.bat which therein passes parameters to DbPDF.def.

If details in the report required for emailing the document are not found in the tags (such as BP and email address) a web-service is fired to find them.

You are encouraged to populate this field:

E-mail address

In the GESBPS screen as it is this that is used to ascertain the email to be used.

Webservices:

XV1GETAD

5.3 DbFax – Faxing

Supporting an analogue phone line only, documents can be faxed directly from Sage X3.

Once the PDF has been generated and copied to C:\temp, XV1SPEARC fires RunPDF.bat which therein passes parameters to DbPDF.def. It is then converted to a faxable tiff.

If details in the report required for faxing the document are not found in the tags (such as BP and fax number) a web-service is fired to find them.

Web-services:

XV1GETAD

5.4 Printing – EDMPrintManagement

If a document can neither be emailed nor faxed, it can be printed.
See 2.12 for a reminder on configuration.

Supporting PDF Enabled printers only, documents can be printed directly from Sage X3.
Once the PDF has been generated and copied to C:\temp, XV1SPEARC fires RunPDF.bat
which therein passes parameters to DbPDF.def.

If details in the report required for emailing or faxing the document are not found in the tags
(such as BP and email address / fax number) the following structure is checked for and read
to find the printer used by the X3 object (using PIH as an example):

C:\v1\EDMPrintManagement\USERS\SEED\ADMCA\TRANS\V1PIH

Sage X3 Folder / Endpoint

Sage X3 User

Transactional Print

Sage X3 Object

TRPRINTER.ini

[SETTINGS]

PRINTER=\\PRINTSERVER\ADMCAPRINTER

If not found, the default is used:

C:\v1\EDMPrintManagement\DEFAULTS\V1XXX

XXX = Sage X3 Object

TRPRINTER.ini

```
[SETTINGS]
V1POC="\\PRINTSERVER\OFFICEPRINTER"
V1PIH="\\PRINTSERVER\OFFICEPRINTER"
V1POH="\\PRINTSERVER\OFFICEPRINTER"
V1PTH="\\PRINTSERVER\WAREHOUSEPRINTER"
V1PSH="\\PRINTSERVER\WAREHOUSEPRINTER"
V1PNH="\\PRINTSERVER\WAREHOUSEPRINTER"
V1FRM="\\PRINTSERVER\SPAREPRINTER"
V1PQH="\\PRINTSERVER\SPAREPRINTER"
V1BPS="\\PRINTSERVER\BACKUPPRINTER"
V1SOR="\\PRINTSERVER\BACKUPPRINTER"
V1SIH="\\PRINTSERVER\OFFICEPRINTER"
V1SOH="\\PRINTSERVER\OFFICEPRINTER"
V1SQH="\\PRINTSERVER\OFFICEPRINTER"
V1REL="\\PRINTSERVER\OFFICEPRINTER"
V1BPC="\\PRINTSERVER\OFFICEPRINTER"
```

5.5 Example scenarios

5.5.1 AUTO Destination

I print a batch of 100 Sales Invoices for 100 different BP's.

80 BP's have emails

10 BP's have no email address but do have fax numbers

10 have neither an email or fax number

- 80 Sales Invoices are emailed to the BP's found based on the formulae in the report / lookup results

This activity is logged in \\V1\DbMail\DbMail.log

- 10 Sales Invoices are faxed to the BP's found based on the formulae in the report / lookup results

This activity is logged in \\V1\DbFax\spool\L-*

- The Sage X3 user FRED instigated the print, he has a printer setup so 10 PDF's are copied to the C:\v1\EDMPrintManagement\USERS\SEED\FRED\TRANS\V1SIH directory. These are then picked up by the EDMPrintMangement service polling those directories and when the 10 PDF's are found, printed to FRED's printer.

This activity is logged in \\V1\logs\Print_Pickup.log

All of the above is archived in to the V1X3_V1SIH EDM database.

5.5.2 EMAILONLY Destination

I print a batch of 50 Purchase Order for 50 different BP's.

40 BP's have emails

10 have neither an email or fax number

- 40 Purchase Orders are emailed to the BP's found based on the formulae in the report / lookup results

This activity is logged in \\V1\DbMail\DbMail.log

- The Sage X3 user FRED instigated the print, he has a printer setup so 10 PDF's copied to the C:\v1\EDMPrintManagement\USERS\SEED\FRED\TRANS\V1POH directory. These are then picked up by the EDMPrintMangement service polling those directories and when the 10 PDF's are found, printed to FRED's printer.

This activity is logged in \\V1\logs\Print_Pickup.log

6. EDM

6.1 DbArchive

DbArchive is the generic V1 document management system that manages the EDM archive, storing the documents as BLOBs inside a database.

It can be used with a Microsoft SQL Server or Oracle 11g platform.

It does not have to be the same one as Sage X3 is using, but this is beneficial for ease of administration.

It consists of 2 services:

DbArchive: Write – Commits data to the EDM database

DbArchive: Query – Queries data from the EDM database

To see all the tables and fields present in the standard solution:

Load the DbLogin Admin Console and login as administrator / administrator

Click the DbArchive Table Editor icon top right of the screen

OR

From within x3 using the GESARE function

6.2 Database

During installation, you are prompted for the database.

Typically it is called X3EDM_DB. EDM supports either SQL Server or Oracle 11g.

The EDM database does not have to be the same instance as Sage X3.

The setup program will create the SQL database as part of the installation process with a collation setting of Latin1_General_BIN.

The setup program will not create the Oracle database, this must pre-exist and tnsnames.ora must exist on the Sage X3 application server assuming a different server to the database. You are advised to test your Oracle credentials with SQL Plus or equivalent program *prior* to running the setup program.

6.3 DbDeposit

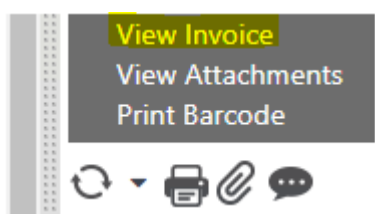
The Deposit client or DbDeposit is a simple .NET UI which allows ad hoc deposits of documents from outside the Sage X3 interface into the DbArchive database. A Crib sheet on the main portal page explains in detail how to use it.

6.4 DbWebQuery

DbWebQuery is the web-viewer allowing access to those images that have deposited. It is installed on port 31491 and hosted within the pre-configured EDM Apache.

<http://SERVERNAME:31491/V1>

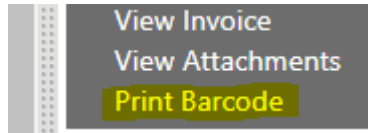
Either browse to it directly to search for entries in the EDM database, or via a button / link on the associated screen in Sage X3 to view only that transaction if / when it is archived against:



6.5 DbScanner

DbScanner is the scanstation software, the client giving several capabilities:

- ▶ Batch scanning of paper documents using a dedicated scanner
 - ▶ The DbScanner client will control a scanner connected via USB using either a TWAIN or a Kofax/ISIS interface. See the portal for recommended scanner models.
- ▶ Batch import of TIFF or JPEG images from networked scanner or MFD
 - ▶ Image must be in the prescribed TIFF or JPEG format – not PDF. Please note that images from MFDs tend to be larger than images from dedicated scanners and barcode recognition is generally less reliable with MFDs. TIFF format images should be scanned at 300dpi in black and white (bi-tonal, not greyscale) and saved with CCITT Group 4 compression. TIFF files for import into DbScanner may be single image or multipage files.
- ▶ Pass scanned images to DbCapture
 - ▶ No validation of the image is done, it is the means to get a paper copy from the scanner into the DbCapture interface where it is then processed further.
- ▶ Barcode recognition
 - ▶ The filing of scanned documents can be speeded up by adding barcodes to documents. A barcode label is produced by clicking the associated button / link on the associated Sage X3 screen:

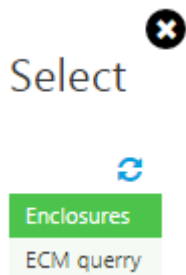


Stick the barcode to the paper copy and scan it in. The barcode is read by DbScanner, it contains the transaction number or BP account code, and this is then fed to the same DbForm def file associated with the DbArchive table to fire the same web-service to get the data for it as per the example covered in previous chapter.

Documents created in Microsoft Word or Crystal Reports, such as customer contracts, work orders or delivery notes, can be generated with barcodes already on them. DbScanner can read many common types of barcode. 2D barcodes such as QR codes require the optional VRS licence.

6.6 Enclosures

Sage X3 users can also use the standard X3 Attachment (paperclip) button to deposit documents in the EDM archive from within the Sage X3 interface without the need for any separate clients.



NOTE: To activate this facility for PU9 Patch 3 onwards or V11, please download the Hotfix 4091.

Sage X3 Source:

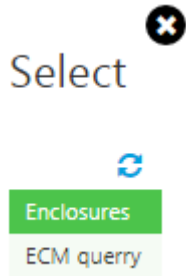
XV1SPEARC

Files:

\Process\\sendfile.txt - Payload generated
\Process\\soaperr.txt - Response if an issue
\Process\\soapout.txt - BLOB on success

6.7 EDM Enquiry

Sage X3 users can natively view images from within the Sage X3 interface by using EDM Enquiry.



Key Files:

<http://<SERVER>:31491/V1/URL>

URL = XV1COMMON > VIEWDOCUMENT subprogram

EDM inquiry



Search

Volume identifier: ONE Version One Master Container Object: PIH Invoices Key: PT0321207-FFO-000002

Document

1 of 1 Automatic Zoom

Product	Description	Account	Qty Invoiced	Orig Unit Pr	Inv Unit Pr	Amount as is	Tax	Invoiced from	Nettoms
BI0001	Kit sprockets x1	312	850	2.3400	2.3400	1,987.00	PT003	Rec: NBOPT0320019	1000
BI0002	Kit sprockets x 8	312	270	2.8900	2.8900	780.30	PT003	Rec: NBOPT0320019	2000
BI0004	Plata serradora	312	320	4.2100	4.2100	2,482.00	PT003	Rec: NBOPT0320019	3000
BI0016	Junta hex 20' BTT	311	1,100	13.7000	13.7000	15,070.00	PT003	Rec: NBOPT0320019	4000
BI0020	Junta hex 25' BTT	311	640	36.9700	36.9700	19,423.00	PT003	Rec: NBOPT0320019	6000
BI0030	Quilador hex. orange BTT	311	880	19.3400	19.3400	10,837.00	PT003	Rec: NBOPT0320019	6000
BI0032	Quilador hex. azul BTT	311	270	26.3400	26.3400	7,044.00	PT003	Rec: NBOPT0320019	7000
BI0038	Tranah. hex. orange BTT	311	650	24.8900	24.8900	16,178.00	PT003	Rec: NBOPT0320019	8000

Screen:

ARCVISUOBJ




















6.8 Print to the Sage X3 ARCHIVE destination

A specific destination added during patching allows pre-existing documents to be archived in the EDM database.

The Sage X3 Crystal Report engine produces a PDF version of the document in the C:\temp directory on the Sage X3 Application server.

XV1SPEARC takes this file and triggers the archiving process:

After archiving

Archiving code		Description	
V1PIH		Purchase Invoices	
 		15 Records Page size: 20 	
		Descriptions	Parameter Value
1		Sage ERP X3 Folder	SEED
2		Invoice Number	PT0321207-FFO-000002
3		Document Creator	ADMIN
4		Submission Date	19/09/2017
5		Invoice Value	177604.25
6		Invoice Date	13/07/2016
7		Company	PT30
8		Site	PT032
9			FFO
10		Supplier Name	Ciclo Componentes
11		Supplier Invoice Number	FAC12919817
12		Supplier Code	PT052
13		Document Key	PT0321207-FFO-000002
14		Document ID Returned	V1PIH:PT0321207-FFO-000002
15		Revision Number	2
16			

7. PIA / SOA

7.1 DbCapture

DbCapture is the generic V1 Data Capture system used in both the Purchase Invoice Automation (PIA) and the Sales Order Automation (SOA) solutions. DbCapture combines data captured from the scanstation or from the incoming email with data extracted from the PDF or image using Optical Character Recognition and if necessary data manually input in order to create automatically a transaction in Sage X3 as well as filing the incoming documents in the EDM archive.

The solutions include the ability to pick up incoming PDFs from email mailboxes or from shared folders as well as to use images scanned using the EDM scanstation software. The solutions leverage the Sage X3 database as well as a knowledgebase of page layouts from previous documents to identify business partners and extract the key details of invoices and orders. The data is validated against the Sage X3 database and matched to existing orders, receipts or quotations.

When sufficient validation is completed and the Invoices exported, via a specific web-service creates the transaction in Sage X3 which is added to the left list as if created manually.

In addition, the image is archived and viewable from the relevant screen, or externally via DbWebQuery for any 'external users'.

7.2 Database

During installation, you are prompted for the database.

Typically it is called X3OCR_DB. PIA / SOA ONLY supports SQL.

The PIA / SOA database does not have to be the same instance as Sage X3.

The setup program will create the SQL database as part of the installation process with a collation setting of Latin1_General_BIN.

7.3 Registry

HKEY_LOCAL_MACHINE\SOFTWAREWow6432Node\Version One\DbCapture Server\ABBYY

The path to the ABBYY engine

HKEY_LOCAL_MACHINE\SOFTWAREWow6432Node\Version One\DbCapture Server\Database

The database instance and credentials

HKEY_LOCAL_MACHINE\SOFTWAREWow6432Node\Version One\DbCapture Server\Default

Paths

7.4 Validation

When a document is validated (triggered by clicking the Check button in the DbCapture) all fields are validated using the associated def file:

Key Files:

\DbCapture\Profile*.dbcp

Example:

```
Validatescript:X3EDM_DBC_APAR_OCRVALIDATE.def
```

```
\DbCapture\defs\*VALIDATE*.def
```

Def file > Batch File > httpost.exe > soap file > xml payload > web-service > response

Depending on what fields need validation depends on the web-service that is triggered, i.e. each does a specific 'job'.

Searching any validation def file for `XV1` and the command associated with `CallSoap.bat` cross referencing that against Sage X3 will tell you exactly what is being triggered.

7.5 Export

When a document is exported (triggered by clicking the Accept button in the DbCapture Client) it builds the XML payload and triggers the

Key Files:

\DbCapture\Profile*.dbcp

Example:

```
exportscript:X3EDM_DBC_APAR_OCREXPORIT.def
```

```
\DbCapture\defs\*EXPORT*.def
```

Def file > Batch File > httpost.exe > soap file > xml payload > webservice > response

If the response is indicative of a success with an Invoice number, the document is moved to the exported queue, the document has been added to the left list in Sage X3 against the Folder / Endpoint and the image archived against the transaction.

7.6 Profiles

Key Files:

<FOLDER>_<LANGUAGE>_APARDbCapture.DBCP

Manages the validation and creation of AP Supplier Invoices (GESBIS).

NOTE: As per hotfix 4518, the use of Accounting Structures is a mandatory requirement and must be assigned to your suppliers.

<FOLDER>_<LANGUAGE>_DbCapture.DBCP

Manages the validation and creation of Purchase Invoices (GESPIH) allowing the matching of those from an Order or Receipt.

<FOLDER>_<LANGUAGE>_DirectCodedDbCapture.DBCP

Manages the validation and creation of Purchase Invoices (GESPIH) allowing simple coding information for miscellaneous line Invoices / credits.

<FOLDER>_<LANGUAGE>_SalesOrders.DBCP

Manages the validation and creation of Sales Orders (GESSOH) allowing the matching of those from a Quote / Multiple Quotes / The previous order lines for the customer or to manually add lines based on product found in the Sage X3 Folder / Endpoint.











**NOTE: This profile is being deprecated for future releases, focus moving to AP Supplier Invoices as standard.*

7.7 OCRIMPORT

Assuming users have a pre-existing electronic invoice in PDF format, copying this PDF in the associated shared directory automatically imports it in to DbCapture.










Install:

```
\OCRIMPORT\FAILED  
\OCRIMPORT\<FOLDER>
```

-  !CREDIT_DIRECT
-  !CREDIT_POP
-  !!INVOICE_CODED
-  !!INVOICE_DIRECT
-  !!INVOICE_GESBIS
-  !!INVOICE_POP
-  !SALES_ORDER
-  APAR
-  PIA
-  SOA

If prefixed with a !, these directories mean no information is known about the Invoice. APAR, PIA and SOA have all sites created as further subdirectories which will pass this to the OCR process removing the need to manually identify it during validation:

```
\PIA
```

-  AO011
-  AO012
-  AO021
-  AO022
-  AO023
-  AT011
-  AT012
-  AU011
-  AU012

Key Files:

```
\DbCapture\defs\PDF_Pickup.def
```

Service:

7.8 DbMailExtractor

The DbMailExtractor polls a pre-determined email address for PDF attachments and when found, extracts them and purges the email.

These attachments are then imported into DbCapture for processing.

So for example, the customer instructs their suppliers, when they send an invoice electronically, send it invoice@mycompany.com.

The email server must support the POP3 protocol, but can be a local email server, such as Microsoft Exchange, Domino or Postfix, or a hosted solution including Gmail or Office365.

Install:

\\DbCapture\DbMailExtractor

Key Files:

DbMailExtract.ini

[SETTINGS]

POP_SERVER=127.0.0.1

POP_PORT=110

ACCEPT_NAME=pdf@wearev1.com

ACCEPT_PWD=pdf

VALIDATE_USER=1

POLL_INTERVAL=15

LOGNAME=c:\v1\DbCapture\DbMailExtractor\DbMailExtract.lg

KEYFILE=c:\v1\DbCapture\DbMailExtractor\DbMailExtract.key


PDF_DIR=c:\v1\OCRIMPORT\SEED\!INVOICE_DIRECT

DEBUG_NAME=c:\v1\DbCapture\DbMailExtractor\DbMailExtract.dbg

DUMP_MSG_DIR=c:\v1\DbCapture\DbMailExtractor\Dump

DUMP_ALL_MSG=0

Service:

 DbCapture: PDF Email Extractor - pdf@wearev1.com Polls mailbox to extract PDFs

As per the above example, extracted PDF attachments are copied into the OCRIMPORT ambiguous directory be to then imported and processed with no user intervention required.