

# Kofax FraudOne Service Program Interfaces

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**KOFAX**

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# Preface

## Related documentation

The full documentation set for Kofax FraudOne is available at the following location:

<https://docshield.kofax.com/Portal/Products/FO/4.6.0-e4jy6kf7pr/FO.htm>

In addition to this guide, the documentation set includes the following items:

### **Release notes**

- *Kofax FraudOne Release Notes*

### **Technical specifications**

- *Kofax FraudOne Technical Specifications*

### **Guides**

- *Kofax FraudOne Administrator's Guide*
- *Kofax FraudOne Archive Interface Server*
- *Kofax FraudOne ASV Blackbox*
- *Kofax FraudOne Common API Specifications for GIA Engines*
- *Kofax FraudOne Data Warehouse Installation and Operation Guide*
- *Kofax FraudOne Extended Reporting Features and Statistics*
- *Kofax FraudOne Feature Codes*
- *Kofax FraudOne Global Fraud Signature Web Service Developer's Guide*
- *Kofax FraudOne Installation and Migration Guide*
- *Kofax FraudOne Java Client Customization Guide*
- *Kofax FraudOne Java Client Customization Layer*
- *Kofax FraudOne Report Component Installation Guide*
- *Kofax FraudOne Service Program Configuration*
- *Kofax FraudOne SignCheck Result Codes*
- *Kofax FraudOne Standard Reporting Features and Statistics*
- *Kofax FraudOne The Book on CRS*
- *Kofax FraudOne Thin Client Customization Guide*
- *Kofax FraudOne Variant Cleanup Utility*

## Help

- *Kofax FraudOne Administration Client Help*
- *Kofax FraudOne Error Messages Help*
- *Kofax FraudOne Java Client Help*
- *Kofax FraudOne Server Monitor Help*
- *Kofax FraudOne Thin Client Help*

## Training


Kofax offers both classroom and online training to help you make the most of your product. To learn more about training courses and schedules, visit the [Kofax Education Portal](#) on the Kofax website.

## Getting help with Kofax products

The [Kofax Knowledge Base](#) repository contains articles that are updated on a regular basis to keep you informed about Kofax products. We encourage you to use the Knowledge Base to obtain answers to your product questions.

To access the Kofax Knowledge Base:

1. Go to the [Kofax website](#) home page and select **Support**.
2. When the Support page appears, select **Customer Support > Knowledge Base**.

 The Kofax Knowledge Base is optimized for use with Google Chrome, Mozilla Firefox or Microsoft Edge.

The Kofax Knowledge Base provides:

- Powerful search capabilities to help you quickly locate the information you need.  
Type your search terms or phrase into the **Search** box, and then click the search icon.
- Product information, configuration details and documentation, including release news.  
Scroll through the Kofax Knowledge Base home page to locate a product family. Then click a product family name to view a list of related articles. Please note that some product families require a valid Kofax Portal login to view related articles.

From the Knowledge Base home page, you can:

- Access the Kofax Community (for all customers).  
Click the **Community** link at the top of the page.
- Access the Kofax Customer Portal (for eligible customers).  
Click the **Support** link at the top of the page. When the Customer & Partner Portals Overview appears, click **Log in to the Customer Portal**.
- Access the Kofax Partner Portal (for eligible partners).

Click the **Support** link at the top of the page. When the Customer & Partner Portals Overview appears, click **Log in to the Partner Portal**.

- Access Kofax support commitments, lifecycle policies, electronic fulfillment details, and self-service tools.

Go to the **General Support** section, click **Support Details**, and then select the appropriate tab.

## Chapter 1

# Account Loader AL

The Account Loader (AL) is the base module for creating and updating the customer and account structures within the SignBase database as preparation for reference creation and maintenance. The input feed for the Account Loader is file based.

The following SignBase objects can be created, modified or deleted:

- Customer
- Account

The following SignBase objects can be created anytime. They can be modified or deleted only if a unique identifier is provided within the interface. This is SIGNATORY.PERSONALID for the signatory/variant object and IMAG.ID for the image object.

- Signatory
- Account Image

The following SignBase object can be created only:

- Variant

In Account Model (Customer=Account) the account number in the Standard Input Format will be ignored. The customer number is used as account number instead.

Explanation of the column Table:

There are 4 types:

- C Customer
- A Account
- S Signatory
- I Account Image

The values indicate for which database table the row can be used:

- M the value is mandatory
- O the value is optional
- - not applicable


If optional values are left empty then a default is taken for action C or the corresponding database column will not be changed for action H.

## Standard input format AL

Respective SignBase database field name	Offset starting with 1	Size CHAR	Table				Description
			C	A	S	I	
							<b>Code and Command</b>
PROTOCOL.ACTION	1	1	M	M	M	M	C - Create data
			M	M	-	-	K - Delete data physically
			M	M	M	M	D - Delete data with historization
			M	M	M	M	H - Modify data with historization
			M	M	M	M	E - Create/Modify with historization
			-	-	M	-	U - Update all signatories
			M	-	-	-	X - Copy Customer
TABLE to be updated in SignBase	2	1					<b>Code and Action to be performed on which table</b> C - Customer A - Account S - Signatory V - Variant I - Account Image
X.BNO	3	3	M	M	M	M	Bank number, can be empty for action X
X.COUNTRYID	6	3	M	M	M	M	ISO Country, e.g. '840' for USA, can be empty for action X
X.BANKCODE	9	8	M	M	M	M	Bank code, can be empty for action X
X.CUSTOMERNO	17	20	M	M	M	M	Customer number, to be filled with account number for account-based data model, can be empty for action X.
X.SHORTNAME	37	30	O	O	-	-	Customer/Account short name
CUSTOMER.VALUEDC	67	1	O	-	-	-	<b>Code and 'Valued customer' (VIP)? (Default: 0)</b> 0 - No 1 - Yes



Respective SignBase database field name	Offset starting with 1	Size CHAR	Table				Description
CUSTOMER.CUSTOMERTYPE	68	1	O	-	-	-	<b>Code and Customer type (Default: 0)</b> 0 - Private 1 - Corporate 2 - Other
ACCOUNT.ACCTNO	69	20	-	M	-	M	Account number
ACCOUNT.CURRENCY	89	3	-	O	-	-	ISO currency code
ACCOUNT.BRANCH_CODE	92	8	-	O	-	-	Branch number
ACCOUNT.ASTATUS	100	1	-	O	-	-	<b>Code and Account status (Default: 0)</b> 0 - Open 1 - Closed
SIGNATORY.LNAME	101	40	-	-	O	-	Last name
SIGNATORY.FNAME	141	30	-	-	O	-	First name
SIGNATORY.TITLE	171	30	-	-	O	-	Title
SIGNATORY.PERSONALID	201	20	-	-	O	-	Passport id or social security number or other id. For an update of signatory data this field is used to find the signatory. Therefore this field must be unique inside a customer.

Respective SignBase database field name	Offset starting with 1	Size CHAR	Table				Description
Is a signature image to be loaded?	221	1	-	-	0	-	<p>- 0 ... no signature image                      (=&gt; set in SignBase:                      SIGNATORY.ASV='1' and                      SIGNATORY.SIG_LOC=0)</p> <p>- 1 ... a binary image (TIFF 6.0                      CCITT Group 4, with x- and y-                      resolution in the TIFF tags!)</p> <p>(=&gt; set in SignBase:                      SIGNATORY.ASV='0',                      SIGNATORY.SIG_LOC=1,                      SIGNATURE_M.SOURCE='3',                      SIGNATURE_M.QUALITY='0')</p> <p>- 2 ... an 8-bit gray-scale image                      (TIFF 6.0 uncompressed, with                      x- and y-resolution in the TIFF                      tags!)</p> <p>(=&gt; set in SignBase:                      SIGNATORY.ASV='0',                      SIGNATORY.SIG_LOC=2,                      SIGNATURE_G.SOURCE='3',                      SIGNATURE_G.QUALITY='0')</p> <p>- R ... use the signature of an                      existing signatory with the                      same Personal Id</p> <p>- empty (only for Action                      H) ... the signature remains                      unchanged</p> <p>Default: 0 (except for Action H)</p> <div style="background-color: #ffe6e6; padding: 5px; border: 1px solid #ccc;"> <p> Deviating from that,                      the service.properties                      for the Account Loader                      can be changed so that                      for the loaded signatures                      SIGNATORY.ASV='1' and                      SIGNATURE_?.QUALITY='1'                      is set, i.e. the signatures                      are then ASV enabled and                      their quality is considered                      to be 'good'.</p> </div>

Respective SignBase database field name	Offset starting with 1	Size CHAR	Table				Description
Full path to the image	222	260	-	-	0	0	Full path to either a signature image or an account attachment from the point of view of the Account Loader. Filled with blanks if no image to be loaded. (only ,Create' allowed, ONLY for initial download)
CUSTOMER.CUSTOMERSINCE	482	8	0	-	-	-	Creation date of the customer, format „YYYYMMDD“
ACCOUNT.OPENDATE	490	8	-	0	-	-	Creation date of the account, format „YYYYMMDD“
ACCOUNT.DEMOGRAPHICLOCN	498	30	-	0	-	-	Demographic location, e.q. ZIP-code
IMAGE.ID	528	20	-	-	-	0	Unique ID of the image, this id is used for update/delete of images  Note that if this field is not set, update or delete is not possible.
IMAGE.TEXT1	548	64	-	-	-	0	Text information, often used for last name
IMAGE.TEXT2	612	64	-	-	-	0	Text information, often used for first name
IMAGE.STATUS	676	1	-	-	-	0	Status flag to indicate an image as unprocessed -> searchable within Java client 0 - processed (default) 1 - not processed Default: 0
IMAGE.SOURCE	677	1	-	-	-	0	Where the image was scanned from: 0 - account/signature card (default) 1 - Fax / copy 2 - other 3 - migrated from other application 4 - payment form Default: 3
IMAGE.TYPE	678	1	-	-	-	0	Image type located in IMAGE: 1 - Black / white (0x01) 2 - Gray (8 bit) (0x02)

Respective SignBase database field name	Offset starting with 1	Size CHAR	Table				Description
IMAGE.FREETEXT	679	2000	-	-	-	O	Image free text
ACCOUNT.FREETEXT	2679	200	-	O	-	-	Account free text
RESTDATETO	2879	8	O	O	-	-	Restriction valid till, format „YYYYMMDD“
RESTCODE	2887	1	O	O	-	-	Restriction code (Default: 0): 00 - No restriction 01 - New card must be requested 02 - Card missing 03 - Customer passed away 04 - Customer/Account without signatures 05 - Customer/Account blocked ? fraud suspicious 09 - See restriction text
RESTTEXT	2888	200	O	O	-	-	Restriction text

## Input-format-dependent configuration AL

Other input file formats than the standard input format can be used by defining a set of hash table keys, described in the following table:

Name	Format	Description
CONTROL.ACTION	1 char	Possible values: S, U, I, N, C Which action is to be done with the current table: S - SELECT U - UPDATE I - INSERT N - nothing with this table C - nothing with this table and all of the following tables, "Continue" with the next record Usually the first action is a SELECT in table CUSTOMER to get some information about the customer, e.q. whether it already exists. Default: S

Name	Format	Description																																				
ACTION	1 char	Possible values: C, M, K, D, H C - Create M - Modify without historization K - Delete without historization D - Delete with historization H - Modify with historization																																				
TARGET	1 char	The signbase object to be accessed: Possible values: C, A, S, V C - CUSTOMER A - ACCOUNT S - SIGNATORY V - VARIANT																																				
CONTROL.SKIP		Defines with which table the processing of the current record continues. This depends on the keys ACTION and TARGET: <table border="1" data-bbox="727 865 1461 1417"> <thead> <tr> <th>ACTION</th> <th>TARGET</th> <th>CONTROL.SKIP</th> </tr> </thead> <tbody> <tr> <td>*</td> <td>C</td> <td>ALDCC</td> </tr> <tr> <td>C</td> <td>A</td> <td>ALDCA</td> </tr> <tr> <td>M</td> <td>A</td> <td>ALDCA</td> </tr> <tr> <td>K</td> <td>A</td> <td>ALDKA</td> </tr> <tr> <td>D</td> <td>A</td> <td>ALDDA</td> </tr> <tr> <td>H</td> <td>A</td> <td>ALDHA</td> </tr> <tr> <td>C</td> <td>S</td> <td>ALDCS</td> </tr> <tr> <td>H</td> <td>S</td> <td>ALDHS</td> </tr> <tr> <td>M</td> <td>S</td> <td>ALDMS</td> </tr> <tr> <td>D</td> <td>S</td> <td>ALDDS</td> </tr> <tr> <td>C</td> <td>V</td> <td>ALDCS</td> </tr> </tbody> </table>	ACTION	TARGET	CONTROL.SKIP	*	C	ALDCC	C	A	ALDCA	M	A	ALDCA	K	A	ALDKA	D	A	ALDDA	H	A	ALDHA	C	S	ALDCS	H	S	ALDHS	M	S	ALDMS	D	S	ALDDS	C	V	ALDCS
ACTION	TARGET	CONTROL.SKIP																																				
*	C	ALDCC																																				
C	A	ALDCA																																				
M	A	ALDCA																																				
K	A	ALDKA																																				
D	A	ALDDA																																				
H	A	ALDHA																																				
C	S	ALDCS																																				
H	S	ALDHS																																				
M	S	ALDMS																																				
D	S	ALDDS																																				
C	V	ALDCS																																				
BNO	3 digits	Bank number																																				
COUNTRYID	3 digits	ISO Country Id																																				
BANKCODE	1-8 digits	Bankcode																																				
CUSTOMERNO	1-20 digits	Customer number																																				
ACCOUNT	1-20 digits	Account number																																				
SHORTNAME	0-30 chars	Value for CUSTOMER.SHORTNAME and ACCOUNT.SHORTNAME																																				
VALUEDC	1 digit	Value for CUSTOMER.VALUEDC Possible values: 0, 1																																				
CUSTOMERTYPE	1 digit	Value for CUSTOMER.CUSTOMERTYPE Possible values: 0, 1, 2																																				

Name	Format	Description
CURRENCY	3 chars	Value for ACCOUNT.CURRENCY and RULE. CURRENCY
BRANCHCODE	0-8 chars	Value for ACCOUNT.BRANCH_CODE
ASTATUS	1 digit	Value for ACCOUNT.ASTATUS Possible values: 0, 1 0 - account open 1 - account closed
LNAME	0-40 chars	Signatories last name
FNAME	0-30 chars	Signatories first name
TITLE	0-30 chars	Signatories title
PERSONALID	0-20 chars	Signatories personal id. Must be unique inside the customer for update or delete of a signatory.
SIGLOC	1 digit	Possible values: 0, 1, 2 0 - no signature image available 1 - monochrome image available in IMAGEPATH 2 - grayscale image available in IMAGEPATH
IMAGEPATH		Name of the file containing the signatories signature
ASV	1 digit	Value for CUSTOMER.ASV, ACCOUNT.ASV and SIGNATORY.ASV Possible values: 0, 1 0 - ASV disabled 1 - ASV enabled Default: 1
QUALITY	1 digit	Value for SIGNATURE_M.QUALITY and SIGNATURE_G.QUALITY. Possible values: 0, 1 0 - bad quality for ASV 1 - good quality for ASV Default: 1
OPID	0-20 chars	Value for all OPID_ENTRY columns and PROTOCOL.USERID Default: ACCOUNTLOADER
RESTCODE	1 digit	Value for CUSTOMER.RESTCODE and ACCOUNT.RESTCODE Possible values: 0, 1, ... 0 - means "no restriction" Default: 0
FREETEXT	0-200 chars	Value for ACCOUNT.FREETEXT Default: empty
STATUS	1 digit	Value for ACCOUNT.STATUS in case of creating a new account Possible values: 0, 4 Default: 0

Name	Format	Description
SIGTYPE	1 char	Value for SIGNATORY.TYPE Possible values: S, V, C, F Default: S for Signatory, V for Variant
LATIN	1 digit	Value for SIGNATORY.LATIN Possible values: 1, 2, 3, 4, 5, 6, 7, 8 Default: 1
SIGNATORY_ROLE	2 digits	Value for SIGNATORY.SIGNATORY_ROLE Possible values: 01, 02, 03, 04, 05, 09 Default: "01" for Signatory, "09" for Variant
INSTRCODE	2 digits	Value for SIGNATORY.INSTRCODE Possible values: 00, 01,... Default: 00
MONOCLEAN	1 digit	Possible values: 0, 1 0 - no cleaning of a mono signature 1 - cleaning of a mono signature Default: 0
PARMCLIP	parameters of the CLIP function	If not empty, the signature area will be cut out of the image from file < IMAGEPATH>. Default: empty Example: "800,300,-10,-10"
PARMCLEAN		Cleaning parameter for grayscale images Default: 8007D06
RULE_CREATE	1 digit	Possible values: 0, 1 0 - no rule will be added to a new signatory 1 - a rule will be added to a new signatory Default: 0
RULE_ACCOUNT	1-20 digits	Value for RULE.ACCTNO Default: 0
RULE_POWER	1 char	Value for RULE.POWER Possible values: S, C, G, T, N Default: S
RULE_AMOUNT	11 digits	Value for RULE.AMOUNT Default: 0
VERIFY	1 digit	Possible values: 0, 1 0 - changes by the Account Loader don't have to be verified 1 - changes by the Account Loader must be verified Default: 0

Name	Format	Description
PROTOCOL		Possible values: 0, 1 0 - don't log changes in the PROTOCOL table 1 - log changes in the PROTOCOL table Default: 0
CHGUSER	1 digit	Possible values: 0, 1 0 - don't write to table CUSTOMER_CHGUSER 1 - write to table CUSTOMER_CHGUSER if necessary Default: 1
TS-CUST	timestamp	Timestamp of the current customer record or empty if the customer does not exist
VERIFY_PENDING	1 digit	VERIFY_PENDING-value of the current customer record or empty if the customer does not exist Possible values: 0, 1
<b>Report File Settings</b>		
REPORT.BNO	3 digits	Bank number
REPORT.CUSTOMERNO	1-20 digits	Customer number
REPORT.ACTION	1 char	Possible values: I, U, P I - INSERT U - UPDATE P - DELETE (PURGE)
REPORT.PN	2 digits	Process number of the Account Loader, for the case of multiple Account Loader instances Possible values: 01,...,99 Default: 01
REPORT.PATH		Path for the report files Default: data directory

## Report file format AL

All fields are delimited by ";".

Field	Length (Char)	Description
BNO	3	Bank number
Customer	1-20	Customer number
Action	1	I - Inserted U - Updated D - Deleted



## Chapter 2

# Image Loader IL

## Standard input format IL

Field	Offset	Size	Value	Description
DOC_REF_NO	1	30		Unique document number
CHECK_ITEM	31	1	1	Run this item through SignCheck or not: 0 - do not run through SC, do not produce a record in the SC interface tables, do not produce a result record 1 - run through SC
SCAN_DATE	32	8	Creation Date	Date the document was scanned, 'YYYYMMDD'
SERIAL_NO	40	13	Check Number	Cheque serial number, empty for transfers (giro documents)
BANKCODE	53	8		Bankcode
ACCOUNT	61	20	Account Number	Account number as used for customers in SignBase. Can be longer than the account number from the document or cheque. Can be empty.
M_ACCOUNT	81	10		Account number from the document/check
CURRENCY	91	3	USD	Currency in the international ISO 3-letter format currency (capital letters), e.g. 'EUR', 'USD'
AMOUNT	94	13	Amount	Transaction amount with leading '0's and in 'cents' in the above currency. '0000000123456' means the amount 1234.56 in the above currency.
CLEAR_DATE	107	8	Posting Date	Clearing date 'YYYYMMDD'
C_TXN	115	2		Check transaction code, empty for transfers
FORM_TYPE	117	1	Blank	IRD handling: by default, if '4' is set the item is handled as IRD. If there is a different entry or empty the item is not handled as IRD. The IRD flag needs to be specified by the bank.
NAME_FIM	118	12		Filename of the front-image

Field	Offset	Size	Value	Description
OFFSET_FIM	130	9		Offset of the front-image, 0-based
LENGTH_FIM	139	7		Length of the front-image. If the length is 0, a multi-tiff file is assumed with offset containing the page (0-based).
NAME_RIB	146	12		Filename of the back-image
OFFSET_RIB	158	9		Offset of the back-image, 0-based
LENGTH_RIB	167	7		Length of the back-image. If the length is 0, a multi-tiff file is assumed with offset containing the page (0-based)
IMAGE_PATH	174	260		Path to the image files

## Input-format-dependent configuration IL

Other input file formats than the standard input format can be used by defining a set of hashtable keys, described in the following table:

Name	Format	Description
CONTROL.ACTION	1 char	Possible values: N, C N - no database action C - continue (do nothing) Default: N
BNO	3 digits	Bank number Default: 001
COUNTRYID	3 digits	ISO Country Id Default: 840
BANKCODE	1-8 chars	Bankcode
CUSTOMERNO	0-20 chars	Customer number Default: same as ACCOUNT
DOCREFNO	1-30 chars	Customer number
CHECKITEM	1 char	1 - check, otherwise don't check
SERIALNO	1-13 digits	Serial number
ACCOUNT	0-20 digits	Account number
AMOUNT	1-13 digits	Cent
CURRENCY	3 digits	EUR, USD, ...
CLEARDATE	yyyyMMdd	Clearing date

Name	Format	Description
FORMTYPE	1 char	Possible values: 0, 3, 4 0 - normal 3 - correction item 4 - IRD
IMAGEFILE		Name of the image file
IMAGEOFFSET		Offset of the image inside the image file, starting with 1
IMAGELength		Length of the image, if 0 then IMAGEOFFSET is the page number of a multi-tiff file
NEWIMAGE		Front image or empty if not available

## Features IL

The following features can be enabled or disabled in service.properties.

Key	Range 0=no 1=yes	Default	Description
<b>amount range</b>			
IL.check.AmountRange	0,1	1	Cheques with an amount inside at least one of a specified number of amount ranges are excluded from processing. Additional keys: IL.ignoreRange.0=<number of ranges> IL.ignoreRange.1=<range1> IL.ignoreRange.2=<range2> ...
<b>Correction Item</b>			
IL.check.CorrectionItemCheck	0,1	1	Images with correction item are excluded from processing.
<b>Unusual Size</b>			

Key	Range 0=no 1=yes	Default	Description
IL.check.UnusualSizeCheck	0,1	1	<p>Check image for unusual size. Images with unusual size are not processed. It is possible to define 2 ranges in each dimension for retail and corporate checks. If an images dimensions are outside all ranges it will not be processed.</p> <p>Additional keys:                      IL.retailMinX                      IL.retailMaxX                      IL.retailMinY                      IL.retailMaxY                      IL.corporateMinX                      IL.corporateMaxX                      IL.corporateMinY                      IL.corporateMaxY</p>
<b>pre-check PAD</b>			
IL.check.prePADCheck	0,1	0	<p>Perform a pre-PAD check (for performance reasons).</p> <p>The lower right quarter of the image will be cleaned. If the cleaned size is below a minimum, a PAD is assumed. If the cleaned size is above a maximum, no PAD is assumed. If the cleaned size is between minimum and maximum, the PAD check will be performed.</p> <p>Additional keys:                      IL.check.PADCleanedSizeMin                      IL.check.PADCleanedSizeMax</p>
<b>pre-check PAD</b>			
IL.check.prePADCheck	0,1	0	<p>Perform a pre-PAD check (for performance reasons).</p> <p>The lower right quarter of the image will be cleaned. If the cleaned size is below a minimum, a PAD is assumed. If the cleaned size is above a maximum, no PAD is assumed. If the cleaned size is between minimum and maximum, the PAD check will be performed.</p> <p>Additional keys:                      IL.check.PADCleanedSizeMin                      IL.check.PADCleanedSizeMax</p>
<b>PAD</b>			
IL.check.PADCheck	0,1	1	<p>Perform a PAD check. PADs are not processed.</p> <p>Additional keys:                      IL.PADLevel</p>
<b>blocked Account</b>			

Key	Range 0=no 1=yes	Default	Description
IL.check.ASVCheck	0,1	1	Do not process images if its account is blocked (ACCOUNT.ASV=0)
<b>minimum SerialNo</b>			
IL.check.SerialNoCheck	0,1	1	Do not process images with a serialno less than the specified minimum. Additional keys: IL.check.minSerialNo
<b>maxVariants</b>			
IL.check.VariantsCheck	0,1	1	Counts the number of variants of the specified customer. Additional keys: IL.check.VariantsExtraWhereClause Variants.maxVariants Variants.maxVariantsPrivate Variants.maxVariantsCorporate Variants.maxVariantsOther
<b>SRF Data file creation</b>			
IL.check.CreateSRFData	0,1	1	A srf record will be created if all checks above were negative. Additional keys: IL.SRFTempSuffix IL.SRFDataSuffix

## Report file format IL

Field	Length (Char)	Description
BNO	3	Bank number
Customer	14	Customer number
Type	1	Customer Type
DocID	20	Unique document ID
NumImg	2	Number of incumbent reference check images

Field	Length (Char)	Description
Action	1	I - new reference inserted C - no reference inserted - account complete Q - no reference inserted - bad quality R - no reference inserted - item image considered risky P - reference parameter inserted (check image only) N - not inserted S - not selected for insert J - rejected A - amount too little T - image too similar to an existing one B - missing SignBase data V - account blocked
ImgNo	1	Reference image number of new inserted image. (not added => "")
Match	4	Best match rate against incumbent reference "" = no incumbent reference or no validation performed
MatchImg	1	Reference number for above match rate
The following fields are delivered only if full report is enabled (reportOnlyDB=false):		
Quality	2	00 - OK 01 - unusual size 02 - PAD detected 03 - IRD 04 - serial number too small or account complete 05 - no Image 06 - correction Item 07 - bad resolution
Test	4	Confidence level from PAD-test for check images "" = no test

## Chapter 3

# Signature Reference Filter SRF

## Standard input format SRF

This format is produced as output by the Image Loader. There is no need to change this format for different customers.

Field	Offset	Size	Description
DOC_REF_NO	1	30	Unique document number
CUSTOMERNO	31	20	Customer number
BNO	58	3	Bank number
COUNTRYID	61	3	ISO Country Id
CHECK_ITEM	64	1	Run this item through SignCheck or not: 0 - do not run through SC, do not produce a record in the SC interface tables, do not produce a result record 1 - run through SC
SCAN_DATE	103	8	Scanning date 'YYYYMMDD'
VAR_BATCH_LOAD	119	1	1 - use this file for SRF 0 - don't use it
SERIALNO	123	13	Serial number
BANKCODE	136	8	Bankcode
ACCOUNT	168	20	Account number
CURRENCY	214	3	Currency in the international ISO 3-letter format currency (capital letters), e.g. 'EUR', 'USD'
AMOUNT	217	13	Transaction amount with leading '0's and in 'cents' in the above currency. '0000000123456' means the amount 1234.56 in the above currency.
SIGN_DATE	230	8	Signing date 'YYYYMMDD'
CLEAR_DATE	238	8	Clearing date 'YYYYMMDD'
FORM_TYPE	248	1	IRD handling: by default, if '4' is set the item is handled as IRD. If there is a different entry or empty the item is not handled as IRD.
NAME_FIM	259	272	Path and Filename of the FIM multi-tiff file

Field	Offset	Size	Description
OFFSET_FIM	531	9	Beginning of the FIM image in the FIM multi-tiff file. Offset is 1-based.
LENGTH_FIM	540	7	Length of the FIM image in the FIM multi-tiff file. If length is 0, then OFFSET_FIM is the page number of the image in the multi-tiff file, starting with 1.

## Features SRF

The following features can be enabled or disabled in service.properties.

Key	Range 0=no 1=yes	Default	Description
<b>auto create Customer</b>			
SRF.createCustomer	0,1	0	If set to 1, a customer will be created for the current variant, in case this customer does not exist.
<b>auto create Account</b>			
SRF.createAccount	0,1	0	If set to 1, an account will be created for the current variant, if this account does not exist.
SRF.searchForClosedAccounts	0,1	0	If set to 1, the search for an account will include closed accounts.
<b>auto create Signatory</b>			
SRF.createDummySignatory	0,1	0	If set to 1, a so-called dummy signatory is created for the current customer, so far this dummy did not exist. Additional keys: SRF.assignToDummySignatory
<b>auto create StockImage</b>			
SRF.createStockImage	0,1	0	If set to 1, the front image of the cheque will be stored as StockImage.
<b>Storing and Assigning of Variants</b>			
SRF.autoSetSignature	0,1	0	If set to 1 and there is only one real signatory and this signatory has no signature, this signatory gets a signature instead of creating a variant. If additional SRF.autoHistorizeSignature is set to 1 then the signature of the one signatory will be replaced and all variants of the customer will be deleted.



Key	Range 0=no 1=yes	Default	Description
SRF.storeIRD	0,1	0	If set to 1, also IRD's (Image Replacement Documents, FORM_TYPE=4) are stored as variants.
SRF.assignToDummySignatory	0,1	0	If set to 1, variants are assigned to the dummy signatory.
SRF.assignToOldestSignatory	0,1	0	If set to 1, variants are assigned to the oldest signatory.
SRF.assignToPersonalId	0,1	0	If set to 1, variants are assigned to the signatory with the specified (in column PERSONALID) personal id.
SRF.storeUnassigned	0,1	1	If set to 1, variants can be stored unbound if there was no way to bind them to a signatory.
SRF.keepFraudulentVariants	0,1	0	If set to 1, fraudulent variants are not counted when calculating the limits for the maximum count of variants.
<b>auto deletion of old Variants</b>			
SRF.deleteOldVariants	0,1	0	If set to 1, the oldest variant will be deleted if the maximum number of variants for a customer has been reached, before adding the new variant. Additional keys: SRF. minAgeOldVariants=<days>
<b>count black Pixels (Big Black Blobs)</b>			
SRF.Quality.SmallBBB SRF.Quality.LargeBBB	0-100	100	Cleaned signatures with a higher percentage of black pixels are not processed. Additional keys: SRF.Quality.SmallSnippet=<max width small>
<b>simplicity of a signature</b>			
SRF.Quality.SmallSimplicity SRF.Quality.LargeSimplicity	0-100	100	Cleaned signatures with a higher simplicity are not processed. Additional keys: SRF.Quality.SmallSnippet=<max width small>
<b>Licence Check</b>			
SRF.checkBNOLicence	0,1	1	If set to 1, for every new BNO an extra Licence check will be performed.

## Report file format SRF

All fields are delimited by ";".

Field	Length (Char)	Description
BNO	3	Bank number
Customer	14	Customer number
Type	1	Customer Type
DocID	20	Unique document ID
NumSign	2	Number of incumbent reference signatures
Action	1	I - new reference inserted O - new reference inserted AND old reference removed C - no reference inserted - account complete Q - no reference inserted - bad quality R - no reference inserted - item image considered risky N - not inserted S - not selected for insert J - rejected A - amount too little T - signature too similar to an existing one B - missing SignBase data D - item not inserted because it is an IRD U - no reference inserted - not assigned to a Signatory
SignNo	1	Reference signature number of new inserted signature. (not added => "")
Match	4	Best match rate against incumbent reference signature "" = no incumbent reference signature or no validation performed
MatchSign	1	Reference signature number for above match rate
The following fields are delivered only if full report is enabled (reportOnlyDB=false):		
Quality	2	00 - OK 01 - No image left after clipping white space 02 - Snippet height to low 03 - Snippet width to slim 04 - Too few pixels left in image 05 - Not enough parameters found in snippet 06 - Too much pixels left in image
Test	4	Snippet size from signature existence test for signatures "" = no test

## Chapter 4

# Fraud Feedback File Loader FFFL

## Standard input format FFFL

Field	Offset	Size	Description
Action	1	1	Code and command: D - Delete B - Block U - Unblock
Reference-Type	2	1	Code and entity: S - Reference Signature I - Reference Image R - All References A - Account
Banknumber (Key)	3	3	Bank number
Customer/Account-number (Key)	6	14	Customer number = account number
DocID	20	20	DocID of Reference Source (may be empty for Reference-Type = A)
Future use	40	N/A	Line may not end here but contain additional information to be ignored by the Account Loader for the time being.
End of Line			

## Input-format-dependent configuration FFFL

Other input file formats than the standard input format can be used by defining a set of hashtable keys, described in the following table:

Name	Format	Description
F3ACTION	1 char	Possible values: D - Delete B - Block U - Unblock R - Restrict
REFERENCETYPE	1 char	Possible values: S - Signature I - Image R - all References A - Account
ACTION	1 char	Possible values: D - Delete M - Modify
CONTROL.ACTION	1 char	Possible values: N - No database action S - Select E - Error in data file
CONTROL.SKIP	0-n chars	Possible values: F3BA - Perform function block/unblock account F3RA - Perform restriction of an account F3BI - Perform function block/unblock image F3BS - Perform function block/unblock signatory F3DA - Perform function delete account F3DI - Perform function delete account F3DS - Perform function delete account F3End - Do nothing
BNO	3 digits	BNO
COUNTRYID	3 digits	ISO Country Id
BANKCODE	8 chars	BANKCODE
CUSTOMERNO	20 chars	CUSTOMERNO
DOCREFNO	30 chars	DOCREFNO
ACCOUNT	20 digits	ACCOUNT
LASTNAME	40 chars	Lastname for the protocol table
VERIFY_PENDING	1 char	Possible values: 0,1 Has to be set to 0
TIMESTAMP	26 chars	Current timestamp (for DataViewer)
CHANGED	1 char	Possible values: 0,1 0 - no change in the database 1 - change, has to be set to 0

Name	Format	Description
CHGUSER	1 char	Possible values: 0,1 0 - no update in the CHGUSER table 1 - update if CHANGED=1 and VERIFY_PENDING=1
OPID		Operator ID
PROTOCOL	1 char	Possible values: 0,1 0 - no protocol 1 - write to protocol table
REGULARFILE	1 char	Possible values: 0,1 0 - no (the data file will not be deleted) 1 - yes (the data file will be deleted)
REPORT.PATH	path	Directory for the report files Default: datapath
REPORT.PN	2 digits	Process number for the report file name Default: 01

## Features FFFL

The following features can be enabled or disabled in service.properties:

Key	Range	Default	Description
<b>header</b>			
F3.datafile.header	0,1 (0=no 1=yes)	0	Has the data file a header record? If yes it will be simply ignored. If something must be done, it must be configured.
<b>trailer</b>			
F3.datafile.trailer	0,1 (0=no 1=yes)	0	Has the data file a trailer record? If yes it will be simply ignored. If something must be done, it must be configured.
<b>block account</b>			
F3.blockingTime	0-9999	0	The number of days starting from today where the stockimages of an account are blocked (i.e. their instruction code is set to 1).
F3.blockImageValidFrom	0-9999	0	The number of days starting from today where the blocked stockimages of an account are used for APIA (VALIDFROM).
F3.unblockImageValidFrom	0-9999	0	The number of days starting from today where the unblocked stockimages of an account are used for APIA (VALIDFROM).
<b>restrict account</b>			

Key	Range	Default	Description
F3.restrictionTime	0-9999	0	The number of days starting from today where the account is restricted (i.e. their restriction code is set to 9).

## Report file format FFFL

All fields are delimited by “;”.

Field	Length (Char)	Description
BNO	3	Bank number
Customer	14	Customer number
DocID	20	Unique document ID
Reference-Type	1	S - Signature I - Image A - Account
Action	1	D - Logically Deleted B - Blocked from usage R - Account restricted

## Chapter 5

# Getter

## Standard input format Getter

Same as [Image Loader IL](#).

## Input-format-dependent configuration Getter

Other input file formats than the standard input format can be used by defining a set of hashtable keys, described in the following table:

Name	Format	Description
CONTROL.ACTION	1 char	Possible values: N - No database action C - Continue with the next record
BNO	3 digits	BNO
COUNTRYID	3 digits	ISO Country Id
BANKCODE	11 chars	BANKCODE
CUSTOMERNO	34 chars	CUSTOMERNO
DOCREFNO	30 chars	DOCREFNO
MACCOUNT	10 digits	Cheque Account
ACCOUNT	34 digits	SignBase Account
AMOUNT	17 digits	In cent
CURRENCY	3 chars	EUR, USD, ...
CLEARDATE	yyyyMMdd	Clearing date
FORMTYPE	1 char	Possible values: 0 - Normal 3 - Correction item 4 - IRD
FRONTIMAGEFILE		Name of the front image file
BACKIMAGEFILE		Name of the back image file

Name	Format	Description
FRONTIMAGE		The front image
BACKIMAGE		The back image
CROP0	left,top, right, bottom	Crop area for the signature search. If empty, it will be calculated by default rules.
CROP1	left,top, right, bottom	Crop area in case of failing signature search. If empty, it will be calculated by default rules.
<b>Optional keys</b>		
PRIMANOTANO	20 chars	Batch number
RELNOINPN	0-5 digits	Item number inside a batch
SCANNERID	0-8 chars	Identification of the scanner that scanned this item
CHECKITEM	1 char	0 - ignore this item 1- process this item
ITEMSOURCE	30 chars	A comment field on the item; e.g. can be used to describe special forms or to describe a special source from where this item came from.
PNDATE	yyyyMMdd	Date of primanota (batch)
SCANDATE	yyyyMMdd	Date, item was scanned and imaged, may be different from clearing date
PROCDATE	yyyyMMdd	Processing date for this item
VARBATCHLOAD	1 char	0 - only to process by Getter 1 - only to process by SRF
DOCPRIO	1-3 digits	Document Priority, 000 is highest priority, 999 is lowest
SERIALNO	0-13 chars	Cheque serial number
BRANCHNO	0-11 chars	Branch sort code of paying bank
PRESBANKCODE	0-11 chars	Bank code (unique per country) of the presenting (collecting) bank
PRESBRANCHNO	0-11 chars	Branch sort code of presenting (collecting) bank
AMOUNTLOCAL	17 digits	The transaction amount in cents, converted into the CURRENCY_LOCAL
CURRENCYLOCAL	3 chars	EUR, USD, ...
SIGNDATE	yyyyMMdd	Signing date, different from clearing and scanning date
CTXN	2 chars	Cheque transaction code
FORMTEXTCODE	10 chars	Form text code
EXTERNAL_DOCUMENT	1 char	0 - Normal Account 1 - External Account



Name	Format	Description
DEPOSITBNO	3 digits	BNO Deposit Account
DEPOSITCOUNTRYID	3 digits	ISO Country Id Deposit Account
DEPOSITBANKCODE	11 chars	BANKCODE Deposit Account
DEPOSITCST	34 chars	CUSTOMERNO
DEPOSITACN	34 digits	SignBase Deposit Account

## Features Getter

The following features can be enabled or disabled in service.properties:

Key	Range 0=no 1=yes	Default	Description
<b>AmountRange</b>			
Getter.check.AmountRange	0,1	1	Cheques with an amount inside at least one of a specified number of amount ranges are recorded in SC_RESULT. Additional keys: Getter.ignoreRange.0=<number of ranges> Getter.ignoreRange.1=<range1> Getter.ignoreRange.2=<range2> ...
<b>Correction Item</b>			
Getter.check.CorrectionItemCheck	0,1	1	Cheques with correction slip are recorded in SC_RESULT
<b>Unusual Size</b>			
Getter.check.UnusualSizeCheck	0,1	1	Check image for unusual size. Images with unusual size are recorded in SC_RESULT. It is possible to define 2 ranges in each dimension for retail and corporate checks. If an images dimensions are outside all ranges it will be recorded in SC_RESULT. Additional keys: Getter.retailMinX Getter.retailMaxX Getter.retailMinY Getter.retailMaxY Getter.corporateMinX Getter.corporateMaxX Getter.corporateMinY Getter.corporateMaxY

<b>Key</b>	<b>Range</b> 0=no 1=yes	<b>Default</b>	<b>Description</b>
<b>PAD</b>			
Getter.check.PADCheck	0,1	1	Perform a PAD check. PADs are recorded in SC_RESULT. Additional keys: Getter.PADLevel Getter.AccountHolderLevel Getter.BlacklistLevel Getter.PADkey.0 Getter.PADkey.1 Getter.PADkey.2 Getter.PADkey.3 ...
<b>ACCOUNT</b>			
Getter.check.AccountCheck	0,1	1	Cheques whose account do not exist are recorded in SC_RESULT.
<b>Signature size</b>			
Getter.check.SignatureSizeCheck	0,1	1	Signatures with a size bigger than the corresponding database column size are recorded in SC_RESULT.

## Chapter 6

# Putter

## Standard output format Putter

Name	Offset	Length	Feature	Description
DOC_REF_NO	1	30		Unique document number
BNO	31	3		Bank number
ACCOUNT NUMBER	34	20		Account number
ACCOUNT TYPE	54	2		customertype
ITEM_SOURCE	56	30		A comment field on the item; can be used by payment transactions systems vendor, e.g. to describe special forms or to describe a special source from where this item came from
AMOUNT	86	16		Amount (cents)
CHECK NUMBER	102	13		Check Serial Number
FORMTYPE	115	1		0 - normal 3 - correction item 4 - IRD
DATE	116	8		Clearing Date [YYYYMMDD]
ERG_VERSION	124	6		Version of Putter Core
TIME_IN	130	26		String of the Getter's time stamp: 'YYYY-MM-DD-hh.mm.ss.nnnnnn' hh from '00'-'23'
TIME_OUT	156	26		String of the Putter's time stamp: 'YYYY-MM-DD-hh.mm.ss.nnnnnn' hh from '00'-'23'
GTR1_RESULT	182	1	257	['0','1'] Getter feature: Account exist (0=yes,1=no)
GTR1_COMMENT	183	20	257	Text describing Getter Result code

Name	Offset	Length	Feature	Description
GTR2_RESULT	203	1	258	['';1] Getter feature: '1' = Amount outside of predefined ranges, '' = Test not performed or amount within range
GTR2_COMMENT	204	20	258	Text describing Getter Result code
GTR3_RESULT	224	1	259	['';1] Getter feature: '1' = Correction item marker found, '' = Test not performed or item not marked
GTR3_COMMENT	225	20	259	Text describing Getter Result code
GTR4_RESULT	245	1	260	['';1] Getter feature: '1' = IRD marker found, '' = Test not performed or not marked as IRD
GTR4_COMMENT	246	20	260	Text describing Getter Result code
GTR5_RESULT	266	1	261	['';1] Getter feature: '1' = no form image, '' = Test not performed or image exists
GTR5_COMMENT	267	20	261	Text describing Getter Result code
GTR6_RESULT	287	1	262	['';1] Getter feature: '1' = Bad image format, '' = Test not performed or format OK
GTR6_COMMENT	288	20	262	Text describing Getter Result code
GTR7_RESULT	308	1	263	['';1] Getter feature: '1' = unusual size, '' Test not performed or size in expected ranges
GTR7_COMMENT	309	20	263	Text describing Getter Result code
GTR8_RESULT	329	1	264	['';1] Getter feature: '1' = bad image resolution, '' = Test not performed or correct resolution
GTR8_COMMENT	330	20	264	Text describing Getter Result code
GTR9_RESULT	350	1	265	['';1] Getter feature: '1' = signature size too big, '' = Test not performed or correct resolution
GTR9_COMMENT	351	20	265	Text describing Getter Result code
PAD1_RESULT	371	1	513	['';1] PAD detection: '1' = PAD detected, '' = Test not performed or not a PAD

Name	Offset	Length	Feature	Description
PAD1_RATE	372	3	513	[';', '0' - '100'] Rate for above decision (characters)
PAD2_RESULT	375	1	514	[';', '0', '1', '2'] Account holder name detection: '0' = name positively confirmed, '1' = name not confirmed, '2' = name is empty ' ' = Test not performed
PAD2_RATE	376	3	514	[';', '0' - '100'] Rate for above decision (characters)
PAD2_COMMENT	379	20	514	(future use)
PAD3_RESULT	399	1	515	[';', '0', '1'] Blacklist key string detection: '1' = match found to list entry, '0' no match found to list entry, ' ' = Test not performed.
PAD3_RATE	400	3	515	[';', '0' - '100'] Rate for above decision (characters)
PAD3_COMMENT	403	20	515	Text from the check that matched blacklist entry
ASV_RESULT	423	2	769	Results of ASV as applicable for given environment:
ASV_RATE	425	3	769	[';', '0' - '100'] Match rates for ASV
ASV_COMMENT	428	80	769	Text describing ASV Result code
ASV_REFERENCE	508	30	769	Source ID of corresponding reference signature
APIA1_RESULT	538	2	1025	Results of Check Stock Validation as applicable for given environment:
APIA1_RATE	540	3	1025	[';', '0' - '100'] Match rate for Check Stock Verification
APIA1_COMMENT	543	80	1025	Text describing APIA result code
APIA1_REFERENCE	623	30	1025	Source ID of corresponding reference image
FINAL_RESULT	653	2		Final Result of queue 100
ATV1_RESULT	655	2	1538	Result of a CAR (Courtesy Amount Reading) test
ATV1_RATE	657	3	1538	[';', '0' - '100'] Confidentiality for CAR test
ATV1_COMMENT	660	80	1538	Value with highest confidentiality

Name	Offset	Length	Feature	Description
ATV2_RESULT	740	2	1539	Result of a LAR (Legal Amount Reading) test
ATV2_RATE	742	3	1539	[''; 0' - '100'] Confidentiality for LAR test
ATV2_COMMENT	745	80	1539	Value with highest confidentiality
ATV3_RESULT	825	2	1540	Result of a combined CAR/LAR test
ATV3_RATE	827	3	1540	[''; 0' - '100'] Confidentiality for combined CAR/LAR test
ATV3_COMMENT	830	80	1540	Value with highest confidentiality
ATV4_RESULT	910	2	1541	Result of a Legal Date test
ATV4_RATE	912	3	1541	[''; 0' - '100'] Confidentiality for Legal Date test
ATV4_COMMENT	915	80	1541	Future use
ATV5_RESULT	995	2	1542	Result of a CAR/LAR comparison
ATV5_RATE	997	3	1542	[''; 0' - '100'] Confidentiality for CAR/LAR comparison
ATV5_COMMENT	1000	80	1542	Future use