Loading FX Rates

Contents

Introduction

Way4™ allows FX rates to be loaded from special-format files, including future rates. File loading generates a response file that contains information on loading errors.

FX rates loading and response file creation are executed through the pipe RBS. FX Rates Import.dll, run through the menu path "Full → DB Administrator Utilities → Special OpenWay Utilities → RBS FX Rates Import". This menu item is invoked within Daily Procedures before setting the banking date (see the "Start of Day Procedure" section of the document "Daily Procedures").

By loading incoming files through pipe RBS. FX Rates Import.dll, the system creates an outgoing response file that contains information on errors found in the incoming file.

Pipe RBS. FX Rates Import.dll supports two work modes depending on the value of parameter FUTURE_RATES_LOADING.

If parameter FUTURE_RATES_LOADING is set to "N" (No), FX rates are loaded directly to the FX_SCHEME table. The next time the banking date is set the loaded rates will appear in the "FX Rates" table, used to edit and activate values. After the system activates the entered values, FX rates are transferred to the FX_RATE table and receive status IS_ACTIVE="Y", which allows the system to use these values during currency conversion and other calculations.

If parameter FUTURE_RATES_LOADING is set to "Y" (Yes), currency rates are loaded for future dates. The FX rate is loaded to the FX_RATE table and receive status IS_ACTIVE="W" (Waiting).

Future FX rates are activated within the set banking procedure in Daily Procedures. For this, the system uses procedure FX.ACTIVATE_FX, executed after the banking date is set and before invoking the FX rates table.

Procedure FX.ACTIVATE_FX transfers the rate value, where IS_ACTIVE = "W", closest to the opening date from the FX_RATE table to the FX_SCHEME table. This rate receives the status IS_ACTIVE = "P" (Posted) in the FX_RATE table, and all other rates receive status IS_ACTIVE = "W", for rates for dates earlier than the current rate (if there are such rates) will receive status IS_ACTIVE = "C" (Closed).

As a result, if there are any FX rates loaded earlier available at the opening date, these rates will appear in the FX rates table for editing and activation.

Values of field IS_ACTIVE in the FX_RATE table:

Value	Comments
"Y" (Yes)	Current rate used by the system
"W" (Waiting)	Inactive future rate
"C" (Closed)	Closed rate for a future date

Value	Comments
"P" (Posted)	Rate loaded for a future date and transferred to the FX_SCHEME table for use as the current rate
space	Previous value used before as the current rate value.

Chapter 1. Parameters for Pipe RBS. FX Rates Import.dll

Pipe RBS. FX Rates Import.dll is used with the following parameters:

Parameter	Value	Parameter Description
BANK_DATE_SHIFT		Checks the date on loaded files. If the parameter is set, the rate date indicated on the file should be the same as the current banking date plus the number of banking days indicated in the parameter. This parameter is used only when future rates loading is not used (FUTURE_RATES_LOADING = "N").
FUTURE_RATES_LOADING	Y/N	Future rates loading is activated. The default parameter value is "N" (No, without future rates loading).
RESP_FOR_DUPL_FILES	Y/N	The parameter defines whether a response file will be created upon an attempt to import an already imported file. If this parameter is set to "N" (default value) a response file will not be created and the re-imported file will be left in the incoming file directory. If this parameter is set to "Y", a response file will be created and the re-imported file will be placed in the error directory.

Chapter 2. File Formats

Incoming File Format

The incoming file contains information on loaded currency rates.

File data is stored in ASCII encoding. The length of each record is 200 bytes, including 2 bytes of CRLF. Each file row contains one message. The message types in the file are: file header, file trailer, and the informational message. The first file message is the file header. The last file message is the file trailer.

Field formats:

- **n** – numerical field containing only numbers, is right-justified and padded from the left with spaces.
- **n**P.S – numerical field containing only numbers, is right-justified and is padded from the left with spaces. P is the total number of digits, S is the number of digits after the decimal point, the point is not shown.
- **an** – character field, may contain any printable characters, is left-justified and padded from the right with spaces.
- **JJJ** – date, where JJJ is a sequential number of the day in the year (001 … 366).
- **YYMM** – date, where YY is the last digits of the year (00 … 99), MM is the sequential number of the month in the year (01 … 12).
- **YYYYMMDD** – date, where YYYY is the year (0000 … 9999), MM is the sequential number of the month in the year (01 … 12), DD is the sequential number of the day in the month (01 … 31).
- **HHMISS** – time, where HH are hours (00 … 23), MI are minutes (00 … 59), SS are seconds (00 … 59).
- **b** – binary field only used for dividers of lines.

Money amounts are presented in minimal units of currency (cents, pences, etc.)

Usage indicator for data fields:

- **M** – field is mandatory;
- **O** – field is optional;
- **C** – depends on data in other fields.

If a field is left empty, it should contain spaces.

File name structure:

N	Field	Pos	Len	Use	Format	Value
1.	File Name Prefix	1	1	M	an	"K"

N	Field	Pos	Len	Use	Format	Value
2.	File Sender	2	4	M	an	Receiver ID. Codes are defined in the *Branch Code* field in the Financial Institutions table ("Full → Configuration Setup → Main Tables → Financial Institutions"). If the code length in the table is less than four characters, the value is padded to the right with spaces. If the length of a code in the table is 5 characters, the first 4 characters are used; if the code length is 6 characters, characters 2-5 are used.
3.	Delimiter	6	1	M	an	"_" (underline symbol).
4.	File Number	7	2	M	n	Sequential number of file in the current day. The value is right justified and padded from the left with zeros.
5.	Delimiter	9	1	M	an	Divider symbol: "**.**"
6.	File Creation Date	10	3	M	JJJ	File creation date

File header structure:

N	Field	Pos	Len	Use	Format	Value
1.	Row Code	1	2	M	an	"FH"
2.	Row Number	3	6	M	n	Row number in the file ("000001" for the header).
3.	File Label	9	10	M	an	"FX_RATES"
4.	Version	19	3	M	an	"10"
5.	File Sender	22	6	M	an	Receiver ID number. Codes are defined in the *Branch Code* field in the Financial Institutions table ("Full → Configuration Setup → Main Tables → Financial Institutions"). Values are left justified and when necessary are padded to the right with spaces.
6.	File Creation Date	28	8	M	YYYYMMDD	File creation date
7.	File Creation Time	36	6	M	HHMISS	File creation time
8.	Reserved	42	2	M	n	"00"
9.	File Number	44	2	M	n	Sequential number of file in the current day. The value is right justified and padded from the left with zeros.
10.	Banking Date	46	8	M	YYYYMMDD	Banking date when FX rates were loaded
11.	Reserved	54	144	M	an	Filled with spaces

N	Field	Pos	Len	Use	Format	Value
12.	Terminal Symbol	198	1	M	an	Symbol "*"
13.	Delimiter	199	2	M	b	"0x0D", "0x0A" (CRLF)

File trailer structure:

N	Field	Pos	Len	Use	Format	Value
1.	Row Code	1	2	M	an	"FT"
2.	Row Number	3	6	M	n	Row number in the file
3.	Number of Rates	9	6	M	n	Number of entries with rates in the file
4.	Reserved	15	183	M	an	Filled with spaces
5.	Terminal Symbol	198	1	M	an	Symbol "*"
6.	Delimiter	199	2	M	b	"0x0D", "0x0A" (CRLF)

Information message structure:

N	Field	Pos	Len	Use	Format	Value
1.	Row Code	1	2	M	an	"RD"
2.	Row Number	3	6	M	n	Row number in the file
3.	Branch Code	9	6	M	an	Financial Institution ID. Codes are defined in the *Branch Code* field of the FI table ("Full → Configuration Setup → Main Tables → Financial Institutions"). If the sender is not the Head Office, the value should be equal to the value of the File Sender field of the file header. Values are left justified and when necessary are padded to the right with spaces.
4.	Local Currency	15	3	M	an	Numerical code of FI's local currency according to ISO-4217
5.	Rate Currency	18	3	M	an	Numerical code of the currency for which the rate is set according to ISO-4217
6.	Rate Type	21	32	C	an	The FX rate type defined in the FX Types table (Full → Configuration Setup → Accounting Setup → FX Types)
7.	Middle Rate	53	20	M	n20.8	FX middle rate
8.	Buy Rate	73	20	M	n20.8	Buy rate
9.	Sell Rate	93	20	M	n20.8	Sell rate
10.	CB Rate	113	20	M	n20.8	Central Bank rate
11.	Authorization Buy Multiplier	133	7	M	n7.3	Authorization buy multiplier

N	Field	Pos	Len	Use	Format	Value
12.	Authorization Sell Multiplier	140	7	M	n7.3	Authorization sell multiplier
13.	Date From	147	14	O	YYYYM MDDHH MISS	The date the loaded rates become effective. This field is mandatory when the mode for loading rates for a future date is enabled.
14.	Base Currency	161	3	C	an	The numeric code of the base foreign currency used for a cross rate, in compliance with ISO-4217**
15.	Is Cross Rate	164	1	O	an	Multicurrency rate marker (Y/N)**
16.	Reserved	165	33	M	an	Filled with spaces
17.	Terminal Symbol	198	1	M	an	"*"Symbol
18.	Delimiter	199	2	M	b	"0x0D", "0x0A" (CRLF)

*Before migrating FX schemes to explicit cross rate recording or before manual generation of the first FX scheme for recording explicit cross rates, the *Rate Type* field can be used in the previous mode for loading data on the base currency used for cross rates. After beginning to work with explicit cross rates, this field is used to load standard data about an additional conversion type, and data about the base currency is loaded using the *Base Currency* field.

**The *Base Currency* and *Is Cross Rate* fields may be absent in the loading file until FX schemes are migrated to recording explicit cross rates or before manual generation of the first FX scheme for recording explicit cross rates. After beginning to work with explicit cross rates, these fields must be added to the file for loading currency rates.

Outgoing File Format

The response file is created by pipe RBS. FX Rates Import.dll after loading incoming files and contains information on errors in the incoming file.

The outgoing file is created in the outgoing mail directory of the corresponding financial institution.

The file is a text file using ASCII encoding. The length of the record is 218 bytes, including 2 bytes of CRLF. Each file row contains one message. The message types in the file are: file header, file trailer, and the informational message. The first file message is the file header. The last file message is the file trailer.

Field formats:

- **n** – numerical field containing only numbers, is right-justified and padded from the left with zeros.
- **an** – character field, may contain any printable characters, is left-justified and padded from the right with spaces.
- **JJJ** – date, where JJJ is a sequential number of the day in the year (001 … 366).
- **YYMM** – date, where YY is the last digits of the year (00 … 99), MM is the sequential number of the month in the year (01 … 12).
- **YYYYMMDD** – date, where YYYY is the year (0000 … 9999), MM is the sequential number of the month in the year (01 … 12), DD is the sequential number of the day in the month (01 … 31).
- **HH:MI:SS** – time, where HH are hours (00 … 23), MI are minutes (00 … 59), SS are seconds (00 … 59).
- **b** – binary field only used for dividers of lines.

Money amounts are presented in minimal units of currency (cents, pences, etc.)

Usage indicator for data fields:

- **M** – field is mandatory;
- **O** – field is optional;
- **C** – depends on data in other fields.

If a field is left empty, it should contain spaces.

File name structure:

N	Field	Pos	Len	Use	Format	Value
1.	File Name Prefix	1	1	M	an	"L"
2.	Inward File Sender	2	4	M	an	ID code of the incoming file sender. The value is left-justified and is padded to the indicated length from the right with zeros. The field has the same value as the File Sender field of incoming file.
3.	Delimiter	6	2	M	an	"_" (underline).
4.	Inward File Number	7	2	M	n	Sequential number of the incoming file for that day. The field has the same value as the File Number field of the incoming file.
5.	Delimiter	9	1	M	an	Divider symbol: "."
6.	Inward File Date	10	3	M	JJJ	Incoming file creation date. The field has the same value as the File Date field of the incoming file.

File header format:

N	Field	Pos	Len	Use	Format	Value
1.	Row Code	1	2	M	an	"FH"
2.	Row Number	3	6	M	n	File row number ("000001" for the header).
3.	Filler	9	1	M	an	Space symbol
4.	File Label	10	10	M	an	"FX-RESP "
5.	Filler	20	1	M	an	Space symbol
6.	Version	21	3	M	an	File format version number
7.	Filler	24	1	M	an	Space symbol
8.	Inward File Sender	25	6	M	an	ID code of the incoming file sender. The value is left justified and is padded to the indicated length from the right with spaces. The field has the same value as the File Sender field of the incoming file.
9.	Filler	31	1	M	an	Space symbol
10.	Inward File Date	32	10	M	YYYY/MM/DD	Incoming file creation date. The field has the same value as the File Date field of the incoming file.
11.	Filler	42	1	M	an	Space symbol
12.	Inward File Time	43	8	M	HH:MI:SS	Creation time of the incoming file. The field has the same value as the File Time field of the incoming file.

N	Field	Pos	Len	Use	Format	Value
13.	Filler	51	1	M	an	Space symbol
14.	Reserved	52	3	M	n	Filled with spaces
15.	Inward File Number	55	1	M	n	Sequential number of the incoming file for the current day. The field has the same value as the File Number field of the incoming file.
16.	Filler	56	1	M	an	Space symbol
17.	File Date	57	10	M	YYYY/MM/DD	Response file creation date
18.	Filler	67	1	M	an	Space symbol
19.	File Time	68	8	M	HH:MI:SS	Response file creation time.
20.	Reserved	76	140	M	an	Filled with spaces
21.	Terminal Symbol	216	1	M	an	Symbol "*"
22.	Delimiter	217	2	M	b	"0x0D", "0x0A" (CRLF)

File trailer format:

N	Field	Pos	Len	Use	Format	Value
1.	Row Code	1	2	M	an	"FT"
2.	Row Number	3	6	M	n	Row number in the file
3.	Filler	9	1	M	an	Space symbol
4.	Number of Messages	10	6	M	n	Number of information messages in the file.
5.	Filler	16	1	M	an	Space symbol
6.	File Response Flag	17	23	M	an	File response flag: "FILE REJECTED" – file is rejected, "FILE ACCEPTED" – file is accepted, "FILE ACCEPTED PARTIALLY" – file is partially accepted.
7.	Filler	40	1	M	an	Space symbol
8.	Number of Accepted Rates	41	6	M	n	Quantity of accepted rates
9.	Filler	47	1	M	an	Space symbol
10.	Number of Rejected Rates	48	6	M	n	Quantity of rejected rates
11.	Reserved	54	162	M	an	Filled with spaces
12.	Terminal Symbol	216	1	M	an	Symbol "***"**

N	Field	Pos	Len	Use	Format	Value
13.	Delimiter	217	2	M	b	"0x0D", "0x0A" (CRLF)

Information message structure:

N	Field	Pos	Len	Use	Format	Value
1.	Row Code	1	2	M	an	"RD"
2.	Row Number	3	6	M	n	Row number in the information file
3.	Filler	9	1	M	an	Space symbol
4.	Inward Row Number	10	6	C	n	Row number in the incoming file
5.	Filler	16	1	M	an	Space symbol
6.	Reserved	17	43	M	an	Filled with spaces
7.	Filler	60	1	M	an	Space symbol
8.	Message	61	100	M	an	Error message
9.	Filler	161	1	M	an	Space symbol
10.	Error Code	162	4	M	an	Error code
11.	Reserved	166	50	M	an	Filled with spaces
12.	Terminal Symbol	216	1	M	an	Symbol "*"
13.	Delimiter	217	2	M	b	"0x0D", "0x0A" (CRLF)