

Exporting and Importing Balances

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Introduction

Way4™ allows balance information (amount remaining on contract amounts) to be exported and imported to the banking system.

Balance import is supported through the pipe "RBS. Balances Import.dll", that imports balances by creating financial documents on the difference between the contract balance at the start of day and the imported balance. The balance at the start of day is defined by the current balance value reached after processing financial documents on account activity during the day. After documents on the balance difference have been created, the system will run the acceptance procedure, after which funds will be transferred to and from contract accounts.

Balance export is supported by pipe "RBS. Adv Balances Export.dll".

Chapter 1. Pipe Parameters

Parameters for Pipe "RBS. Balances Import.dll"

Parameter	Value	Parameter Description
CR_MESS_CODE	Message code	Message code for crediting payment documents. This code is used when creating financial documents for correcting balances after importing. Payments with this code are not counted when determining the balance at the start of day from the current balance if balances were imported again during the day. Codes are defined in the <i>Code</i> table at "Full → Configuration Setup → Transaction Types → Message Types - All".
DR_MESS_CODE	Message code	Message code for debiting payment documents. This code is used to create financial documents for correcting balances after importing. Payments with this code are not counted when determining the balance at the start of day from the current balance if balances were imported again during the day. Codes are defined in the <i>Code</i> table at "Full → Configuration Setup → Transaction Types → Message Types - All".
COMMIT_INTERVAL	Whole positive integer	Parameter determining the quantity of balance records that serves as the interval before the pipe commits the changes to the Way4 database. Default value is "5".
ADD_MESS_CODES	'<Message code>', '<Message code>',...	Message code for financial documents that are not counted when the system determines the balance at the start of day from the current balance value. Codes are defined in the <i>Code</i> field of the table found at "Full → Configuration Setup → Transaction Types → Message Types - All".
EXTENDED_ERR_MESS	Y/N	Parameter showing whether the full list of errors created by processing the payment document will be included in the outgoing response file. Default value is "N" (only one error message code will be included).
ACC_FILTER	Condition fragment	Fragment of condition WHERE, added to operator SELECT for filtering accounts that are included in the contract balance. Default value is "a.IS_AM_AVAILABLE='Y'".
TEMPL_FILTER	Condition fragment	Fragment of condition WHERE added to the SELECT operator for filtering accounts, used to check that the account is available in the necessary currency. Default value is "tp.IS_AM_AVAILABLE='Y'".

Parameter	Value	Parameter Description
FILE_DATE_DELAY	Whole positive integer	Parameter used to check dates on imported files. If this parameter is defined, then the date for the balances in the file will be the current banking date minus the number of banking days indicated in the parameter value. If the parameter has not been defined, dates in imported files are not checked. When loading files with balances whose dates are not the same as the current banking date, balances are reset as those at the start of the banking date.
INSPECT_SENDER	Y/N	Parameter defining for which financial institutions balances are imported: "Y" – import balances only for contracts of financial institutions shown in the file header; "N" – import balances for contracts of all financial institutions whose accounts are shown in the file; this value is used as default.
NOT_CHANGED_MESS	Y/N	Parameter defining whether messages for processed contracts whose balances were not changed after importing will appear in the process log. Default value is "N".
CHECK_CURR	Y/N	Parameter that is responsible for balance currency check. When set to "Y", the system checks whether the currency of an imported balance file and the contract currency are the same. If they are not, an error message is generated and the balance file is not imported. Default value is "N".
RESP_FOR_DUPL_FILES	Y/N	When set to "Y", when the system attempts to import an already imported file, a response file will be created stating that the file was already imported. The imported file will be sent to the bad file directory. The default value is "N". In this case, the response file is not created and the imported file remains in the outgoing directory, and an error message will be created during the second import process.
RESP_FOR_INVALID_BAL_DATE	Y/N	When set to "Y", an imported balance file is rejected and a response file is generated in the event that the file date does not meet the import conditions (see the "FILE_DATE_DELAY" parameter). It is impossible to import a rejected file one more time. When set to "N", an imported balance file is not imported and an error message is generated in the event that the file date does not meet the import conditions. In this mode, it is possible to import a file one more time after changing import parameters. Default value is "N".

Parameters for Pipe "RBS. Adv Balances Export.dll"

Parameter	Value	Parameter Description
FILTER	Condition fragment	Fragment of condition WHERE, added to operator SELECT. For example: "(c.f_i = 1)".
SOURCE_HINT	Parameter of operator SELECT	A HINT parameter added to operator SELECT. For example: "/*+ALL_ROWS*/". This parameter is only used when working with Oracle DBMS.
FL_PREFIXES	<Account code>-<prefix>,<Account code>-<prefix>, ...	Parameter defining file prefixes, if balances are grouped by account type through parameter BREAK_BY.
BREAK_BY	CURRENCY, ACC_CODE, ZIP_CODE	<p>Parameter indicating by which criteria the balance statement is broken up. The parameter value is selected from the following list:</p> <p>"CURRENCY" – balances of contract accounts are exported to file according to account currency; this grouping is only allowed if the GROUP_BY parameter is set to "NO";</p> <p>"ACC_CODE" – balances of contract accounts are exported to file according to account codes; this grouping is only allowed if the GROUP_BY parameter is set to "NO";</p> <p>"ZIP_CODE" – balances of contract accounts are exported to file according to the client record's ZIP_CODE value for the contract containing account data.</p> <p>Examples of parameter combinations:</p> <p>"CURRENCY,ACC_CODE" (grouped by currency and account codes, i.e. each file will show records for one currency and one account code), "ZIP_CODE,CURRENCY" (grouped by ZIP_CODE values and currency), "CURRENCY,ACC_CODE,ZIP_CODE" (grouped by currency, account codes and ZIP_CODE). If the parameter is not defined, then all balances are exported in one common file.</p>
GROUP_BY	CONTRACT/CURRENCY/NO	<p>Parameter defining how data is grouped in exported files:</p> <p>"CONTRACT" (by contract) – the contract's amount available is exported as the balance, this value can only be used for contracts having accounts in one currency;</p> <p>"CURRENCY" (by currency) – the totaled balance for contract accounts of one currency for each contract is exported;</p> <p>"NO" – grouping does not occur, this value is used as default.</p>

Parameter	Value	Parameter Description
OEM	Y/N	Parameter defining encoding for the data to be exported: "Y" – data is exported in OEM (DOS); "N" – data is exported in Windows encoding, this value is used as default.
USE_RBS_NUMBER	Y/N	Parameter indicating whether an RBS number will be exported instead of the contract number. Default value is "N".
REAL_AM_AVAIL	Y/N	Parameter defining how the contract's amount available will be defined: "Y" – through procedure blk.GET_AVAILABLE_R; "N" – by the amount of the contract's AMOUNT_AVAIL field; this value is used as default.
SENDER_CODE	4-6-character code	Code used as the sender code. The sender code is used to create the name of the mail directory to which files will be imported when creating the file name and header. If the parameter value is not defined, then the value of ZIP_CODE will be used as the sender code (if the BREAK_BY parameter is set to group by ZIP_CODE) or the value of the <i>Branch Code</i> field in the table at "Full → Configuration Setup → Main Tables → Financial Institutions".
RESP_FOR_DUPL_FILES	Y/N	When set to "Y", when the system attempts to import an already imported file, a response file will be created stating that the file was already imported. The imported file will be sent to the bad file directory. The default value is "N". In this case, the response file is not created and the imported file remains in the outgoing directory, and an error message will be created during the second import process.
BANK_DATE_FOR_FI	Y/N	If the value of this parameter is "Y", the banking date of the appropriate financial institution is used as the extension of unloaded files. If the value of this parameter is "N" (default), then the date entered by the user as requested by the system when the menu item is executed is used as the extension. If the user fails to enter the date, the banking date of the head financial institution is used as the extension of unloaded files. All the dates are in Julian representation. This functionality allows for Time Zones.

Chapter 2. File Formats

Balance File

The balance file contains data on the amount remaining in contract accounts. File data may be either outgoing or incoming for the WAY4 system.

File data is stored in ASCII format. The entry length is 395 bytes, including two bytes of delimiters (CRLF). Each row in the file contains a message. Types of messages in the file are the file header, the file trailer, and the balance message. The first file message is the file header. The last file message is the file trailer.

Field formats:

- **n** – numerical field containing only integers, right-justified and padded to the indicated length to the left with zeros.
- **an** – character field that may contain any printable characters, left-justified and padded to the indicated length to the right with spaces.
- **JJJ** – date, where JJJ is the sequential number of the day in the year (001 ... 366).
- **YYMM** – date, where YY are the last two numerals in the year (00 ... 99), MM is the numerical value 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).
- **b** – binary field used only for delimiter symbols.

Money amounts are presented in minimal currency units (cents, pence...)

Usage indicators for data elements are as follows:

- **M** – field is mandatory;
- **O** – field is optional;
- **C** – data entry depends on values in other fields.
- **n/a** – field is not used.

If the field is not filled, it should contain spaces.

If the table is split in two parts, the upper part relates to import and the lower part to export.

No.	Field	Pos	Len	Usage	Format	Value
12.	Balances Date	68	8	M	YYYYMMDD	Date of balances sent in the file.
13.	Check Level	76	1	M	an	Level at which the file will be rejected when an error is found: "F" – the entire file is rejected if an error is found, "R" – only messages for balances where the contract was not found or where the value of the file's <i>Short Name</i> field is not the same as the value of the field of the same name in the WAY4 database.
14.	Contract Identification Type	77	1	M	an	Contract ID method: "C" – by the contract number in the WAY4 database, "R" – by RBS number.
15.	Short Name Checking	78	1	M	an	Check that the client name in the file is the same as that in the WAY4 system database: "Y" – check, "N" – not check.
16.	Data Charset	79	1	M	an	Character code page: "D" – MS DOS, "W" – MS Windows.
17.	File Currency	80	3	<u>n/a</u> <u>C</u>	an	Numerical code (in ISO-4217) of the balance currency sent in the file. Field is filled if the file contains balances in one currency.
18.	File Account Type	83	32	<u>n/a</u> <u>C</u>		Account type code. Filled if the file contains balances for accounts of one type.
19.	Reserved	115	278	M	an	Filled with spaces. Reserved for use in future versions.
20.	Terminal Symbol	393	1	M	an	Symbol "*"
21.	Delimiter	394	2	M	b	0x0D, 0x0A (CRLF)

File trailer:

No.	Field	Pos	Len	Usage	Format	Value
1.	Row Code	1	2	M	an	"FT"
2.	Row Number	3	6	M	n	Row number in the file.

No.	Field	Pos	Len	Usage	Format	Value
3.	Number of Records	9	6	M	n	Number of records in the file.
4.	Total Amount	15	18	M	n	Control amount in the <i>Current Balance</i> field of all balance messages. Totals are made without counting currencies, decimal points and signs.
5.	Reserved	33	360	M	an	Filled with spaces. Reserved for use in future versions.
6.	Terminal Symbol	393	1	M	an	Symbol “*”
7.	Delimiter	394	2	M	b	0x0D, 0x0A (CRLF)

Balance statement:

No.	Field	Pos	Len	Usage	Format	Value
1.	Row Code	1	2	M	an	“RD”
2.	Row Number	3	6	M	n	Row number in the file.
3.	Contract Number	9	32	M	an	Contract number.
4.	Contract Number Specification	41	2	C	an	Parameter defining the contract number: values of fields <i>Source_Spc</i> or <i>Target_Specification</i> in the document belonging to the contract, if the contract is counted in the transaction as a channel source or target, respectively.
5.	Main Contract Number	43	32	<u>n/a</u> M	an	Main contract number.
6.	Contract Name	75	32	<u>n/a</u> O	an	Contract name.
7.	Client Short Name	107	32	<u>C</u> M	an	Short client name.
8.	Authorization Scenario	139	1	<u>n/a</u> M	an	Authorization scenario: "0" – contract's amount available is not checked; "Y" – the lesser amount among the contract amount available and the main contract's amount available; "N" – only the main contract's amount available is checked.
9.	Contract Currency	140	3	<u>n/a</u> M	an	Numerical account currency code for the contract in ISO-4217.

No.	Field	Pos	Len	Usage	Format	Value
10.	Contract Currency Exponent	143	1	<u>n/a</u> M	An	Number of places in the decimal part of the contract current amount.
11.	Credit Limit	144	15	<u>n/a</u> M	N	Contract credit limit amount.
12.	Credit Limit Sign	159	1	<u>n/a</u> M	an	Credit limit sign: "C" – positive balance, "D" – negative balance, " " (space symbol) – zero balance.
13.	Available Amount	160	15	<u>n/a</u> M	N	Contract's amount available
14.	Available Amount Sign	175	1	<u>n/a</u> M	an	Amount available sign: "C" – positive balance, "D" – negative balance, " " (space symbol) – zero balance.
15.	Blocked Amount	176	15	<u>n/a</u> M	N	Amount blocked in contract accounts.
16.	Blocked Amount Sign	191	1	<u>n/a</u> M	an	Sign of amount blocked in contract accounts: "C" – positive balance, "D" – negative balance, " " (space symbol) – zero balance.
17.	Sub Blocked Amount	192	15	<u>n/a</u> M	N	Amount blocked on sub-contract accounts.
18.	Sub Blocked Amount Sign	207	1	<u>n/a</u> M	an	Amount blocked on sub-contract accounts: "C" – positive balance, "D" – negative balance, " " (space symbol) – zero balance.
19.	Total Amount	208	15	<u>n/a</u> M	N	Contract balance.
20.	Total Amount Sign	223	1	<u>n/a</u> M	an	Contract balance sign: "C" – positive balance, "D" – negative balance, " " (space symbol) – zero balance.
21.	Sub Total Amount	224	15	<u>n/a</u> M	n	Sub-contract sign.
22.	Sub Total Amount Sign	239	1	<u>n/a</u> M	an	Sub-contract balance sign: "C" – positive balance, "D" – negative balance, " " (space symbol) – zero balance.

No.	Field	Pos	Len	Usage	Format	Value
23.	Account Type	240	1	<u>n/a</u> C	an	The first character of an account type code.
24.	Account Number	241	32	<u>n/a</u> C	an	Account number.
25.	Account Balance Currency	273	3	<u>M</u> C	an	Numerical account currency code in ISO-4217.
26.	Account Balance Currency Exponent	276	1	<u>O</u> C	an	Number of places in the decimal part of the contract current amount.
27.	Account Balance	277	15	<u>M</u> C	N	Account balance.
28.	Account Balance Sign	292	1	<u>M</u> C	an	Account balance sign: "C" – positive balance, "D" – negative balance, " " (space symbol) – zero balance.
29.	Contract Status	293	2	<u>n/a</u> M	an	Contract status code. Codes are configured in the form "Full → Contract Types → Contract Statuses".
30.	Card Expiry Date	295	4	<u>n/a</u> C	YYMM	Card expiry date.
31.	Full Account Type	299	32	<u>n/a</u> M	an	Account type code.
32.	GL Number	331	62	M	an	Account number in the GL.
33.	Terminal Symbol	393	1	M	an	Symbol "***"
34.	Delimiter	394	2	M	b	0x0D, 0x0A (CRLF)

Response File

This file is sent by the WAY4 system as a response to the incoming balance file, and confirms that the file has been accepted and contains information on errors in the incoming file.

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

File data is stored in ASCII format. The entry length is 207 bytes, including two bytes of delimiters (CRLF). Each row in the file contains a message. Types of messages in the file are the file header, the file trailer, and the information message. The first file message is the file header. The last file message is the file trailer. If there are no errors, the file will not contain information messages.

Field formats:

- **n** – numerical field containing only integers, right-justified and padded to the indicated length to the left with zeros.
- **an** – character field that may contain any printable characters, left-justified and padded to the indicated length to the right with spaces.
- **JJJ** – date, where JJJ is the sequential number of the day in the year (001 ... 366).
- **YYMM** – date, where YY are the last two numerals in the year (00 ... 99), MM is the numerical value of the month in the year (01 ... 12).
- **YYYY/MM/DD** – 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 used only for delimiter symbols.

Money amounts are presented in minimal currency units (cents, pence...)

Usage indicators for data elements are as follows:

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

If the field is not filled, it should contain spaces.

File name structure:

No.	Field	Pos	Len	Usage	Format	Value
1.	File Name Prefix	1	1	M	an	"J"
2.	Inward File Sender	2	4	M	an	Sender code for the incoming file, left-justified, padded to the right with zeros. Corresponds with the value of the <i>File Sender</i> field of the incoming file.
3.	Delimiter	6	1	M	an	"_" (underline symbol).
4.	Inward File Number	7	2	M	n	Sequential number of the incoming file within the current day. Corresponds with the value of the <i>File Number</i> field of the incoming file.
5.	Delimiter	9	1	M	an	Divider symbol "."
6.	Inward File Date	10	3	M	JJJ	Creation date of the incoming file. Corresponds with the <i>File Date</i> field value of the incoming file.

File name structure:

No.	Field	Pos	Len	Usage	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.	Filler	9	1	M	an	Filler symbol.
4.	File Label	10	10	M	an	"BAL-RESP"
5.	Filler	20	1	M	an	Filler symbol
6.	Version	21	3	M	an	Version number
7.	Filler	24	1	M	an	Filler symbol
8.	Inward File Sender	25	6	M	an	Sender code for the incoming file. Left-justified and padded to the right with spaces. Corresponds with the <i>File Sender</i> field of the incoming file.
9.	Filler	31	1	M	an	Space symbol
10.	Inward File Date	32	10	M	YYYY/MM/DD	Creation date of the incoming file. Corresponds with the value of the <i>File Date</i> field of the incoming file.
11.	Filler	42	1	M	an	Space symbol

No.	Field	Pos	Len	Usage	Format	Value
12.	Inward File Time	43	8	M	HH:MI:SS	Creation time of the incoming file. Corresponds to the <i>File Time</i> field of the incoming file.
13.	Filler	51	1	M	an	Space symbol
14.	Reserved	52	3	M	n	Filled with zeros.
15.	Inward File Number	54	2	M	n	Sequential number of the incoming file for the day. Corresponds with the <i>File Number</i> 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	Filler symbol.
19.	File Time	68	8	M	HH:MI:SS	Response file creation time
20.	Filler	76	129	M	an	Space symbol
21.	Terminal Symbol	205	1	M	an	Symbol “*”
22.	Delimiter	206	2	M	b	0x0D, 0x0A (CRLF)

File trailer structure:

No.	Field	Pos	Len	Usage	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	Filler symbol.
4.	Number of Messages	10	6	M	n	Number of information messages in the file.
5.	Filler	16	1	M	an	Filler symbol.
6.	File Response Flag	17	23	M	an	File response flag: "FILE REJECTED" – file rejected; "FILE ACCEPTED" – file accepted; "FILE ACCEPTED PARTIALLY" – file accepted partially, several balance entries were rejected.
7.	Filler	40	1	M	an	Filler symbol.
8.	Number of Accepted Balances	41	6	M	n	Number of accepted balance messages.
9.	Filler	47	1	M	an	Filler symbol.
10.	Number of Rejected	48	6	M	n	Number of rejected balance messages.

No.	Field	Pos	Len	Usage	Format	Value
	Balances					
11.	Reserved	54	151	M	an	Filled with spaces.
12.	Terminal Symbol	205	1	M	an	Symbol “*”
13.	Delimiter	206	2	M	b	0x0D, 0x0A (CRLF)

Information message structure:

No.	Field	Pos	Len	Usage	Format	Value
1.	Row Code	1	2	M	an	“RD”
2.	Row Number	3	6	M	n	Row number in the file.
3.	Filler	9	1	M	an	Filler symbol.
4.	Inward Row Number	10	6	C	n	Row number in the incoming file.
5.	Filler	16	1	M	an	Filler symbol
6.	Inward Contract Number	17	32	C	an	Contract number in the incoming file. This field is filled for error messages if the contract number was read during the import process.
7.	Filler	49	1	M	an	Filler symbol
8.	Message	50	100	M	an	Error description
9.	Filler	150	1	M	an	Filler symbol
10.	Error Code	151	4	M	an	Error code
11.	Reserved	155	50	M	an	Filled with spaces
12.	Terminal Symbol	205	1	M	an	Symbol “*”
13.	Delimiter	206	2	M	b	0x0D, 0x0A (CRLF)