Configuring WAY4™ for Calculation of MasterCard IRD

Contents

Introduction

This document describes settings that must be made by the acquirer for calculation of MasterCard IRD (Interchange Rate Designator). IRD is a two-character code corresponding to the MasterCard interchange fee charged as a result of a transaction (see the payment system document "GCMS Reference Manual").

When working with this document, it is recommended to use the following resources from the WAY4 documentation series:

- "Products and Contract Subtypes"

- "WAY4™ Accounting Schemes"

- "WAY4™ Service Packages"

- "WAY4™ Global Parameters"

- "WAY4™ Client and Contract Classifiers"

- "Interchange Routing"

The following conventions are used throughout the document:

- Field labels in screen forms are shown in *italics*.

- Button labels in screen forms are indicated in square brackets, for example, [Approve].

- User menu selection sequences are shown with arrows, as in: "Configuration Setup → Contract Types".

- Warnings that an action may have adverse effects are given using the ⚠ sign.

- Messages marked with the ⓘ sign contain information about important features, additional facilities, or the optimal use of certain functions of the system.

Chapter 1. General Principles of IRD Calculation

The payment system requires that acquirers calculate an IRD (Interchange Rate Designator). All presentments and secondary transaction documents exported by the acquirer to MasterCard must contain this indicator.

Starting from version 03.38.30, new technology has been implemented in WAY4 for supporting calculation of the MasterCard IRD by acquirers.

This technology involves automatic calculation of an IRD by WAY4 software tools, not configuration of routing contact Service Packages.

IRD is calculated on the basis of special criteria provided by the WAY4 vendor for each release and based on payment system data. Criteria are provided as special format files and are imported using Configuration Inspector.

Starting from version 03.41.30, criteria for calculating IRD can be automatically generated based on MasterCard Member Parameter Extract (MPE) files. To use this functionality, use Configuration Inspector to import a special format file and make the corresponding settings (see "Configuring Import of IRD Criteria from MPE Files").

After importing the configuration, make the following additional settings:

- Generate BIN groups that are created according to geographic attribute (region, country).

- For the "MC_NOSTRO" routing contract, register card subcontracts based on imported Service Packages according to the acquirer's and issuer's geographic attribute. Standard Service Packages are used to process interregional transactions (acquirer and issuer are in different regions), intra-regional transactions (acquirer and issuer are in the same region) and transactions made in the same country (acquirer and issuer are in the same country).

- Configure routing for the generated BIN groups.

- If the bank is EMV and/or PayPass certified, the values of the corresponding classifiers must be determined for the "MC_NOSTRO" routing contract.

After all settings have been made, based on the selected criteria, the MasterCard IRD will be defined automatically when posting a document for a transaction. The result of calculation (the IRD) will be put in the TARGET_FEE_CODE of the DOC table.

Chapter 2. Configuring WAY4 to support IRD Calculation

To configure WAY4, do as follows:

1. Set global parameters (or ensure they have been set) (see "Global Parameters").

2. Using Configuration Inspector, import configuration files containing configured Service Packages and files with the criteria for calculating IRD (see "Importing the Standard Configuration") or a file that makes it possible to automatically generate criteria from payment system MPE files (see "Configuring Import of IRD Criteria from MPE Files").

3. Register BIN groups and import the BIN table (see "Registering BIN Groups and Importing the BIN Table").

4. Register routing contracts (see "Configuring Routing Contracts").

5. Configure routing for registered BIN groups (see "Configuring Routing").

6. For EMV and/or PayPass certified banks, configure classifiers (see "Configuring Classifiers").

Global Parameters

For support of IRD calculation, in the "Additional Global Parameters" form (Full → Configuration Setup → Main Tables → Additional Global Parameters) the following global parameters must be set:

- MC_CALC_IRD with the "Y" value. This parameter enables the mode for calculating IRD.

- MC_RELEASE with the value corresponding to the number of the latest MasterCard Release, for example, "15.Q2". This parameter is used to work with MasterCard files, for example, with BIN table files.

- MC_CPI_GROUPS with the value "M=CIR,MSI;". This parameter is used to import BIN tables taking into account BIN tables registered in WAY4 (see "Registering BIN Groups and Importing the BIN Table").

- MC_MPE_IRD_CRITERIA with the country code values of the countries in which the bank provides acquiring services. This parameter must be set if the bank uses IRD configurations imported from MasterCard MPE files (see "Configuring Import of IRD Criteria from MPE Files").

Importing the Standard Configuration

To implement IRD calculation, use Configuration Inspector to import the file with the configuration of Service Packages for routing contracts (see "*Importing Service Packages")

Depending on the way IRD criteria are set, the following configuration files must be imported:

- Files with criteria for calculating IRD, provided by the WAY4 vendor if the bank doesn't import criteria from MPE files (see "Importing IRD Criteria").

- Special configuration file if the bank imports criteria from MPE files (see "Configuring Import of IRD Criteria from MPE Files").

Configuration files are located in the "<OWS_HOME>\db\datax\config\" directory or are provided by the WAY4 vendor.

⚠️ Configuration files must be imported for each MasterCard release. Records belonging to the latest release will only be applied after the appropriate value has been set for the "MC_RELEASE" global parameter (see "Global Parameters").

Importing Service Packages

The MC_IRD_CFG_SP_CC.txt file contains the standard configuration of Service Packages for card routing contracts.

For Service Packages set up in the standard configuration, the following naming system is used:

- All Service Packages names have the prefix "STD-STD MC".

- Routing contract Service Package names contain the abbreviation "BSA" (Business Service Arrangement).

- All Service Package names contain the region/country codes of the acquirer and issuer:
  - "AP" – "Asia-Pacific"
  - "CA" – "Canada"
  - "US" – "United States"
  - "EA" – "Middle East, Africa"
  - "EU" – "Europe"
  - "LA" – "Latin America and the Caribbean"
  - "IR" – any region for the acquirer
  - "GL" – any region for the issuer
  - "<XX>" – country designation, where "XX" is a two-letter country code.

ℹ️ Note that the Service Package configuration file provided contains settings for the financial institution with the code (Branch Code) "0001". If standard settings must be imported to another financial institution, the import process can be parameterised. For more information, see the description of the "INSTITUTION_MAPPING" parameter in the document "Importing Configurations Using the Configuration Inspector Module".

ℹ️ After the import procedure has been completed, approve the imported Service Packages.

Importing IRD Criteria

If IRD is calculated based on criteria provided by the WAY4 vendor, the following configuration files must be imported:

- "MC_IRD_CFG_<Release>_<Region>_CC.txt" – configuration files containing criteria for calculating IRD depending on transaction type, merchant category, etc. Here <Release> is the number of the MasterCard Release, and <Region> is the acquirer region. For example, the file "MC_IRD_CFG_REL_14_Q2_EU_CC.txt" corresponds to MasterCard Release "14.Q2" and an acquirer from the "Europe" region.

- In addition to the file corresponding to the acquirer region, all MasterCard participants must import the file "MC_IRD_CFG_<Release>_IR_CC.txt" containing criteria for determining the IRD for interregional transactions.

The necessary configuration files for import should be put in the "<OW_WORK>\Data\" directory.

⚠ Before importing the standard configuration, the previous configuration should be deleted. To do so, contact WAY4 support.

The configuration is imported using the menu item "Full → Configuration Setup → Copy Configuration Import → Configuration File Import".

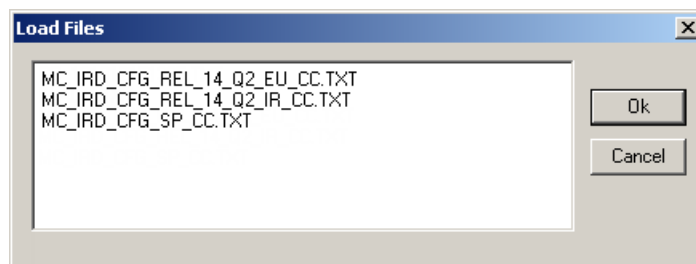After starting this menu item, select the configuration files for import (see Fig. 1).

Fig. 1. Selecting configuration files for import

When import has been completed, use the menu item "Full → Configuration Setup → Copy Configuration Import → Copy Configuration Import Screen" to open the "Copy Configuration Import Screen" window (see Fig. 2) to view imported data.

Name	IDT	Record ID	Amendment Date	Tree Type	Posting Status
MC IRD Release April 2014 MC EU	CC_140605115900	288	26/06/14 15:58:55	CC_IMPORT	
MC IRD Release April 2014 MC IR	CC_140605115941	287	26/06/14 15:54:19	CC_IMPORT	
MC_IRD_CFG_SERVICE	CC_140610172857	286	26/06/14 15:42:46	CC_IMPORT	

Fig. 2. Window for viewing imported data

For more information about importing configurations, see the document "Importing Configurations Using the Configuration Inspector Module".

After executing the import procedure, analyse records in the process log that correspond to import of the configuration.

Configuring Import of IRD Criteria from MPE Files

If IRD is calculated based on criteria from imported payment system MPE files, the configuration from the special file MC_IRD_CFG_CFG_CC.txt. must be imported.

This file should be put in the "<OW_WORK>\Data\" directory.

⚠ Before importing the standard configuration, the previous configuration should be deleted. To do so, contact WAY4 support.

The configuration is imported using the menu item "Full → Configuration Setup → Copy Configuration Import → Configuration File Import".

For more information about importing configurations, see the document "Importing Configurations Using the Configuration Inspector Module".

After the import procedure has been executed, analyse Process Log records for import of the configuration.

ⓘ MPE file import is described in the document "MasterCard Interchange Interface".

Registering BIN Groups and Importing the BIN Table

MasterCard BIN groups are generated by geographic attribute only (region, country).

In the "BIN Groups" form (Full → Configuration Setup → Routing → BIN Groups) for MasterCard register the BIN groups shown in Table 1.

Table 1. Configuring BIN groups

Name	Channel	Group Code	Priority
MC <Country> Cirrus/Maestro Issuer	MasterCard (IPM)	MCxxxM*	0
MC <Country> Issuer	MasterCard (IPM)	MCxxxS*	0
MC Asia Pacific Cirrus/Maestro Issuer	MasterCard (IPM)	MRCM	0
MC Asia Pacific Issuer	MasterCard (IPM)	MRCS	0
MC Canada Cirrus/Maestro Issuer	MasterCard (IPM)	MRAM	0
MC Canada Issuer	MasterCard (IPM)	MRAS	0
MC Europe Cirrus/Maestro Issuer	MasterCard (IPM)	MRDM	0
MC Europe Issuer	MasterCard (IPM)	MRDS	0
MC LAC Cirrus/Maestro Issuer	MasterCard (IPM)	MRBM	0
MC LAC Issuer	MasterCard (IPM)	MRBS	0
MC MEA Cirrus/Maestro Issuer	MasterCard (IPM)	MREM	0
MC MEA Issuer	MasterCard (IPM)	MRES	0
MC USA Cirrus/Maestro Issuer	MasterCard (IPM)	MR1M	0
MC USA Issuer	MasterCard (IPM)	MR1S	0

*) Country name

**) Instead of "xxx", specify a three-letter country code, for example "DNK" (for Denmark).

After registering BIN groups, import the MasterCard BIN table. For more information about importing the BIN table, see the section "Loading the MasterCard BIN Table" of the document "Interchange Routing".

⚠ For the BIN table import pipe (MPE Import) to import taking new BIN groups into account, configure the global parameter MC_CPI_GROUPS, assigning it the value "M=CIR,MSI;".

Configuring Routing Contracts

For the MasterCard routing contract (MC_NOSTRO) register card subcontracts that will be used by all Service Packages imported using the Configuration Inspector module whose names contain the prefix "STD-STD MC BSA".

These contracts should be used when configuring routing for new BIN groups.

Configuring Routing

When configuring routing for newly created BIN groups (see "Registering BIN Groups and Importing the BIN Table") in the "Routing for <group name>" form (Full → Configuration Setup → Routing → BIN Groups →[Routing]) of each BIN group specify the card subcontract set up using the imported Service Package. For more information about registering Interchange routing contracts linked to a BIN group, see the section "Configuring BIN Groups" of the document "Interchange Routing".

Tables showing the correspondence of Service Packages (contracts) to BIN groups are shown below.

Table 2. Configuring routing for BIN groups (Acquirer region – Europe)

BIN Group	Service Pack
MC Asia Pacific Cirrus/Maestro Issuer	STD-STD MC BSA EU GL Inter-Regional Maestro Europe Acq
MC Asia Pacific Issuer	STD-STD MC BSA EU AP Inter-Regional Europe Acq Asia Pacific Iss
MC Canada Cirrus/Maestro Issuer	STD-STD MC BSA EU GL Inter-Regional Maestro Europe Acq
MC Canada Issuer	STD-STD MC BSA EU CA Inter-Regional Europe Acq Canada Iss
MC Europe Cirrus/Maestro Issuer	STD-STD MC BSA EU EU Intra-Regional Maestro Europe Acq
MC Europe Issuer	STD-STD MC BSA EU EU Intra-Regional Europe Acq
MC LAC Cirrus/Maestro Issuer	STD-STD MC BSA EU GL Inter-Regional Maestro Europe Acq
MC LAC Issuer	STD-STD MC BSA EU LA Inter-Regional Europe Acq LAC Iss
MC MEA Cirrus/Maestro Issuer	STD-STD MC BSA EU GL Inter-Regional Maestro Europe Acq
MC MEA Issuer	STD-STD MC BSA EU EA Inter-Regional Europe Acq MEA Iss
MC USA Cirrus/Maestro Issuer	STD-STD MC BSA EU GL Inter-Regional Maestro Europe Acq
MC USA Issuer	STD-STD MC BSA EU US Inter-Regional Europe Acq USA Iss

Table 3. Configuring routing for BIN groups (Acquirer region – Middle East, Africa)

BIN Group	Service Pack
MC Asia Pacific Cirrus/Maestro Issuer	STD-STD MC BSA IR GL Inter-, Intra- Regional Intra-Country Maestro Standard
MC Asia Pacific Issuer	STD-STD MC BSA EA AP Inter-Regional MEA Acq Asia Pacific Iss
MC Canada Cirrus/Maestro Issuer	STD-STD MC BSA IR GL Inter-, Intra- Regional Intra-Country Maestro Standard
MC Canada Issuer	STD-STD MC BSA EA CA Inter-Regional MEA Acq Canada Iss
MC Europe Cirrus/Maestro Issuer	STD-STD MC BSA EA EU Inter-Regional Maestro MEA Acq Europe Iss
MC Europe Issuer	STD-STD MC BSA EA EU Inter-Regional MEA Acq Europe Iss
MC LAC Cirrus/Maestro Issuer	STD-STD MC BSA IR GL Inter-, Intra- Regional Intra-Country Maestro Standard
MC LAC Issuer	STD-STD MC BSA EA LA Inter-Regional MEA Acq LAC Iss
MC MEA Cirrus/Maestro Issuer	STD-STD MC BSA IR GL Inter-, Intra- Regional Intra-Country Maestro Standard
MC MEA Issuer	STD-STD MC BSA EA EA Intra-Regional MEA Acq
MC USA Cirrus/Maestro Issuer	STD-STD MC BSA IR GL Inter-, Intra- Regional Intra-Country Maestro Standard
MC USA Issuer	STD-STD MC BSA EA US Inter-Regional MEA Acq USA Iss

Table 4. Configuring routing for BIN groups (Acquirer region – Asia Pacific)

BIN Group	Service Pack
MC Asia Pacific Cirrus/Maestro Issuer	STD-STD MC BSA IR GL Inter-, Intra- Regional Intra-Country Maestro Standard
MC Asia Pacific Issuer	STD-STD MC BSA AP AP Intra-Regional Asia Pacific Acq
MC Canada Cirrus/Maestro Issuer	STD-STD MC BSA IR GL Inter-, Intra- Regional Intra-Country Maestro Standard
MC Canada Issuer	STD-STD MC BSA AP CA Inter-Regional Asia Pacific Acq Canada Iss
MC Europe Cirrus/Maestro Issuer	STD-STD MC BSA AP EU Inter-Regional Maestro Asia Pacific Acq Europe Iss
MC Europe Issuer	STD-STD MC BSA AP EU Inter-Regional Asia Pacific Acq Europe Iss
MC LAC Cirrus/Maestro Issuer	STD-STD MC BSA IR GL Inter-, Intra- Regional Intra-Country Maestro Standard
MC LAC Issuer	STD-STD MC BSA AP LA Inter-Regional Asia Pacific Acq LAC Iss
MC MEA Cirrus/Maestro Issuer	STD-STD MC BSA IR GL Inter-, Intra- Regional Intra-Country Maestro Standard
MC MEA Issuer	STD-STD MC BSA AP EA Inter-Regional Asia Pacific Acq MEA Iss
MC USA Cirrus/Maestro Issuer	STD-STD MC BSA IR GL Inter-, Intra- Regional Intra-Country Maestro Standard
MC USA Issuer	STD-STD MC BSA AP US Inter-Regional Asia Pacific Acq USA Iss

ℹ For the BIN groups "MC <Country> Cirrus/Maestro Issuer" and "MC <Country> Issuer" the same Service Packages can be used as for the groups "MC

<Region> Cirrus/Maestro Issuer" and "MC <Region> Issuer" (for example, "MC Europe Cirrus/Maestro Issuer" and "MC Europe Issuer"), if among the imported Service Packages there are no Packages for inter-regional transactions (for example, "STD-STD MC BSA RU RU Intra-Country Russia Acq").

Configuring Classifiers

Contract classifiers are used when configuring the standard configuration's Service Packages (for more information, see the document "WAY4™ Client and Contract Classifiers").

Therefore for the standard configuration's Service Packages to be used correctly, the following classifiers must be configured:

- Classifier for EMV certified banks.

- Classifier for PayPass certified banks.

For banks that are certified for EMV but not PayPass, make the following settings.

1. Configure a classifier.

   In the "User Classifiers" dictionary (Full → Configuration Setup → Common Handbooks → User Classifiers) register the classifier "MasterCard Acquirer EMV Certification" (see Fig. 3).

User Classifiers										<< < [>] >>	1 of 1	✕
Name	**Code**	**Group Code**	**Category**	**Default Value**	**Applies To**	**Client Cat**	**Contract Cat**	**Product Cat**	**Role**	**Add Info**		
→ MasterCard Acquirer EMV Certification	MC_EMV_CERT	Interchange	Status	2 Acquirer is not certified (OK)	Main Contract	Accountant		Bank Accounting	Primary			

Ins | Del | Query | Validate | Values | ConfGroup |

Values for MasterCard Acquirer EMV Certification							<< < > >>	1 of 2	b ✕
Weight Factor	**Name**	**Code**	**Result Event Code**	**Is OK Value**	**Add Info**	**Is Active**	**Date From**	**Date To**	
→ 2	Acquirer is not certified	N		Yes		Yes	00/00/0000	00/00/0000	
1	Acquirer is certified	Y		Yes		Yes	00/00/0000	00/00/0000	

Ins | Del | Query |

Fig. 3. Configuring a classifier for EMV Certified Members

2. Configure a routing contract.

   In the "Contract Classifiers" form (Full → Customer Support → Client and Contract Classifiers → Contract Classifiers) assign the MC_NOSTRO routing contract the following classifier value (see Fig. 4).

Fig. 4. Assigning a value to the EMV Certified Member routing contract classifier

For PayPass certified banks, the following settings are required;

1. Configure a classifier.

   In the "User Classifiers" dictionary (Full → Configuration Setup → Common Handbooks → User Classifiers) register the classifier "MasterCard Acquirer PayPass Certification" (see Fig. 5).

Fig. 5. Configuring a classifier for PayPass Certified Members

2. Configure a routing contract.

   In the "Contract Classifiers" form (Full → Customer Support → Client and Contract Classifiers → Contract Classifiers), assign the MC_NOSTRO routing contract the following classifier value (see Fig. 6).

Fig. 6. Assigning a value to the PayPass Certified Member routing contract classifier

IRD Calculation Criteria

IRD calculation criteria generated as the result of importing configuration files or obtained from MPE files are stored in a special database table and are available after selecting the menu item "OpenWay → MasterCard Fee Prediction → MC IRD Criteria".

This command opens the "MC IRD Criteria" form (see Fig. 7).

Fig. 7. IRD criteria table

Each record shown in this form contains a set of transaction parameters and the IRD value corresponding to these parameters. WAY4 automatically selects the IRD value when posting a document for a transaction, according to transaction parameters.

The "MC IRD Criteria" form contains the following fields:

- *BSA* – <Business Service Arrangements type>/<Business Service ID>, for example, "1/010201".

- *IPS Release #* - payment system release number from which the criteria becomes effective, for example "13.2".

- *IPS Release # To* – payment system release number until which the criteria is effective.

- *IRD* – IRD value saved in the TARGET_FEE_CODE field of the DOC table, and also as the value of the "MRC_IRD" tag specified in the ADD_INFO field of the DOC table and used to calculate tariffs.

- *Priority* – criteria priority; when selecting from several options, the criteria with the higher value in this field is used.

- *Card Program Id* – list of card program IDs, separated by commas, for example "MCC".

- *Product Id* – list of card product IDs (GCMS Product ID) separated by commas, for example "MCF",MCP,MNF".

- *Trans Type* – transaction type (Message Type ID); this field contains the value "1240" corresponding to the first presentment.

- *Function Code* – three-digit code (DE 24 data element) determining the specific purpose of a transaction message; together with the *Trans Type* field, this field determines the transaction type for which the criteria is used – First Presentment.

- *Processing Code* – transaction type (Cardholder Transaction Type) from the DE 3 data element, field №1 (subfield 1).

- *Trans Attr* – drop-down list to specify transaction conditions.

- *Original Trans Attr* – reserved for forward compatibility.

- *Timeliness* – maximum number of days between the transaction date and date of sending the transaction message to the payment system.

- *Approval Code* – the value in this field may be "Y", "N" or an empty value; used to specify that to define IRD, the terminal used to make the transaction must be EMV compatible.

- *PayPass Enabled Ind* – the value in this field may be "Y", "N" or "M" (Mobile PayPass); used to specify that the card participating in the transaction supports MasterCard PayPass technology.

- *Service code* – list of card products, separated by commas; this field is used to specify card compatibility with EMV.

- *CAB* – list of SIC groups (Card Acceptor Business) with the "MC_CAB" classification marker; commas are used to separate values.

- *Min Trans Amount* – minimum transaction amount in the currency specified in the *Trans Curr* field.

- *Max Tran Amount* – maximum transaction amount in the currency specified in the *Trans Curr* field.

- *Trans Curr* – currency in which limits on the transaction amount are calculated.

- *MC Assigned Id* – the "Y" value in this field means that to select a criterion the transaction message must contain a MasterCard Assigned ID.

- *Special Restrictions* – conditions for selecting a criterion are entered in this field using special tags (see Table 5).

- *Doc Tag Restrictions* – additional conditions for selecting IRD; tags (with values) that a document's ADD_INFO field must contain for this criterion to be selected can be specified in this field.

Table 5. Tags used in the Special Restrictions field

Tag	Format	Description	Possible values
IN_GROUP	IN_GROUP=<val1>,<val2>,…;	To select the criterion, the merchant must belong to one of the specified SIC groups.	List of SIC groups with the "MC_IRD" classification marker.
IN	IN=<val1>,<val2>,…;	To select the criterion, the merchant's SIC must me specified as the tag value.	List of SIC codes.
EXCLUDE	EXCLUDE=<val1>,<val2>,…;	To select the criterion, the merchant must not belong to any of the specified SIC groups.	List of SIC groups with the "MC_IRD" classification marker.
EXCLUDE_SIC	EXCLUDE_SIC=<val1>,<val2>,…;	To select the criterion, the merchant's SIC must not be specified as the tag value.	List of SIC codes.
PRD_TYPE	PRD_TYPE=<value>;	Card product type (Product type), Product Type ID field from the MPE table IP0052T1.	1=Consumer (individual); 2=Commercial (legal entity); 3=Both (both values).
PRD_ADD	PRD_ADD=<val1>,<val2>,...;	An additional condition for selecting the criterion is that the card participating in the transaction must belong to the card products specified as the tag value.	List of card product IDs (GCMS Product ID) with commas used to separate the values.
PRD_DEL	PRD_DEL=<val1>,<val2>,...;	An additional condition for selecting the criterion is that the card participating in the transaction must not belong to the card products specified as the tag value.	List of card product IDs (GCMS Product ID) with commas used to separate the values.
AIR_IND	AIR_IND=<val>;	Special tag that cannot be edited.	N/Y
FROM_IRD	FROM_IRD=NULL;	Special tag that cannot be edited.	NULL

If necessary, existing records can be edited and new ones registered in the "MC IRD Criteria" form (see Fig. 7).

⚠ Note that changes made in the "MC IRD Criteria" form are not saved after importing criteria from files provided by the WAY4 vendor or from MPE files.