



Installation and Configuration Manual

Way4 CB Gate (iRouter)

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Contents

1	Overview	4
2	Installation and Setup	5
2.1	Configuring Way4 Transaction Switch Services	5
2.2	Configuring Way4 CB Gate	6
2.2.1	Configuring a Domain	6
2.2.2	Configuring Transaction Message Types that are Processed	7
2.2.3	Configuring an Authentication Type	8
2.2.4	Configuring Routing of Transaction Messages for the CBS	8
2.2.5	Registering Authorization Procedures	9
2.2.6	Registering Message Channels	10
2.2.7	Configuring a Routing Contract	10
2.2.8	Configuring Contracts of Transactions Authorized in the CBS	11
2.2.9	Configuring Service Packages for Processing Transactions in the CBS	11
2.2.10	Configuring Sending Card Status Change Messages to the CBS	12
2.3	Additional Functionality	13
2.3.1	Substitution of Acquirer ID	13
2.3.2	STIP setup	14
2.3.3	Prohibiting Authorizations for a Contract in STIP	19
2.3.4	Loading STIP Balances	20
2.3.5	Scheduled Loading of STIP Balances	21
3	Tags in CB Gate Setup	22

This document is intended for Way4 CB Gate administrators (bank or processing center employees) responsible for installing and configuring the product on the Way4 Transaction Switch platform with the iRouter component.

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

- "CB Gate. Functional Specification", (CB_Gate_Function_Specification.pdf)
- "STIP Balance Format", (STIP_Balance_Format.pdf)
- "CB Gate. Operation Manual", (CB_Gate_Operation.pdf)
- "Installing and Configuring Transaction Switch Platform-Based Solutions", (Transaction_Switch_Setup.pdf)
- "Events", (Events.pdf)
- "Balance Types", (Balance_types.pdf)
- "Way4 Service Packages", (Service_Packages.pdf)
- "Working with Stop Lists" (stop_list.pdf)
- "Way4 Client and Contract Classifiers", (Contract_and_Client_Classifiers.pdf).
- "Documents", (Documents.pdf).
- "Usage Limiters", (Usage_Limiters.pdf).

The following notation is used in the document:

- Screen form field labels are shown in *italics*.
- Screen form button labels are shown in square brackets, such as [Approve].
- Sequences for selecting user menu items are shown using arrows as follows: "Issuing → Contracts Input & Update".
- Sequences for selecting system menu items are shown using arrows as follows: "Database => Change password".
- Key combinations in DB Manager are shown in angular brackets, for example <Ctrl>+<F3>.
- Variables that differ for each local instance, for example, directory and file names, as well as file paths, are shown in angular brackets; for example, <OWS_HOME>.
- Warnings and information messages are indicated as follows:



Warnings about potentially hazardous situations or actions.



Messages with information about important features, additional options, or the best use of certain system functions.

1 Overview

Way4 CB Gate provides issuers an online interface between Way4 and the core banking system (CBS) to check for available funds when making card transactions. If the CBS is unavailable, Stand-In Processing (STIP) mode can be used. In this case, an authorization request may be approved based on data loaded earlier to Way4 from the CBS.

CB Gate places the task of balance checking on the CBS. When an authorization request comes in, Way4 is used to check control values, card status, and contract usage limiters. Then a request is sent to the CBS to check that the client's account contains the required funds, and depending on the response, the transaction is either permitted or declined.

Way4 CB Gate allows bank clients to make card transactions within the limits of an account contract's balance. This makes it possible for clients to control their funds and lower the risk of overdraft.

Way4 CB Gate makes it possible to calculate fees and transmit them to the CBS when posting authorizations.

A more detailed description of the solution's architecture is provided in the functional specification "Way4 CB Gate".

2 Installation and Setup

Procedure for installing and setting up Way4 CB Gate:

- [Configuring Way4 Transaction Switch Services](#).
- [Configuring Way4 CB Gate](#).
- [Additional Functionality](#): configuring substitution of acquirer ID in messages (ISO8583 standard, field 32) sent to the CBS, settings required to process authorization requests in STIP mode and to send authorization notifications with guaranteed delivery using the Store-and-Forward (SaF) queue.

2.1 Configuring Way4 Transaction Switch Services

Way4 Transaction Switch main configuration parameters, and specifics of setting up rules for routing between services are described in the section "Configuration" of the document "Installing and Configuring Way4 Transaction Switch Platform-Based Solutions".

The following Way4 Transaction Switch parameters are key for Way4 CB Gate:

- IRouter – software component responsible for smart processing and routing of authorization requests, in particular, with a check of amounts available in the CBS and in STIP mode.
- WAY4H2HCBSAdapter – software component responsible for interaction between the IRouter service and the CBS.
- WAY4H2HCBSSAF – software component responsible for sending the CBS notifications about authorizations that were made in STIP mode using the "Store and Forward" (SAF) mechanism.

In this case, WAY4H2HCBSAdapter acts as the client, and the CBS as the server. The network connection with the CBS is set up in the WAY4H2HCBSAdapter.s.xml configuration file. In particular, the IP address of the server on which the CBS operates and the number of the port it listens must be specified as attributes of the <transport> element:

```
...
<appComponent>
    <transport
        xsi:type="ExternalClient"
        host="?????"
        port="12345"
    >
...
</appComponent>
...
```

No additional settings for services (in IRouter.s.xml, WAY4H2HCBSSAF.s.xml and WAY4H2HCBSAdapter.s.xml configuration files) are required. If they be changed, it is recommended to consult OpenWay specialists.

2.2 Configuring Way4 CB Gate

Way4 CB Gate is set up by doing the following:

- [Configuring a Domain.](#)
- [Configuring Transaction Message Types that are Processed.](#)
- [Configuring an Authentication Type.](#)
- [Configuring Routing of Transaction Messages for the CBS.](#)
- [Registering Authorization Procedures.](#)
- [Registering Message Channels.](#)
- [Configuring a Routing Contract](#)
- [Configuring Contracts of Transactions Authorized in the CBS.](#)
- [Configuring Service Packages for Processing Transactions in the CBS.](#)
- [Configuring Sending Card Status Change Messages to the CBS.](#)

2.2.1 Configuring a Domain

A domain is configured in the "Domains" form, menu item "CB Gate → Configuration → Domains".

A domain is a set of rules for interacting with a certain CBS: rules for FX conversion of transaction amounts, PAN masking, synchronizing STIP balances.

If the user is a processing center, the number of domains must match the number of CBS with which the processing center communicates.

An example of domain setup:

Domains						
				<< < > >>		1 of 1 X
	Name	Code	Currency FX Mode	IDT Transparent	Domain Data	Category
➔	Core Banking System	CBSC	No Conversion	Contract Number	ONLINE_BALANCE_SYNC=Y;	CB Gate
Ins Del Query						

Domain setup

The "Domains" form's fields:

- *Name* – domain name.
- *Code* – domain code. This code is used, for example, to identify a card contract's link with the corresponding CBS.
- *Currency FX Mode* – rule for FX conversion of the transaction amount (Settlement Amount):
 - "No Conversion" – no conversion, the settlement amount is sent to WAY4H2HCBSAdapter unchanged.

- "To Domain Currency" – conversion to the domain currency. The settlement amount will be sent to the WAY4H2HCBSAdapter in the domain currency. This option is used, for example, when the CBS only supports one currency. The domain currency must be specified in the *Domain Data* field, in the value of the DOMAIN_CURR tag. For example, DOMAIN_CURR=840.
- "To Contract Currency" – conversion to the contract currency. The settlement amount will be converted to the card contract's currency.
- *IDT Transparent* – PAN substitution rule:
 - "Contract Number" – indicates that when sending a transaction message to the CBS, the number of the contract in Way4 (Contract Number) will be transmitted in field 102.
 - "Self CBS Number" – indicates that when sending a transaction message to the CBS, the number of the card contract in the banking system (RBS_NUMBER) will be transmitted in field 102.
 - "Billing CBS Number" – if transactions are made with a subordinate card contract, when sending a transaction message to the CBS, the number of the higher-ranking account contract in the banking system will be sent in field 102. Therefore, all messages in the SaF queue that were generated for transactions made with any card contract will be under one higher-ranking account contract.
- *Domain Data* – rule for online synchronization of the STIP balance (see the section "STIP Settings in the Domain").

2.2.2 Configuring Transaction Message Types that are Processed

To set up routing of transaction messages depending on their type, possible message types must have been registered in the "Message Types" form, menu item "CB Gate → Configuration → Message Types":

Message Types				<< < > >>	1 of 4	X
	Name	Code	Dr Cr	Msg Rules		
→	ATM	0719	Debit			
	Balance Inquiry	BQ	None			
	Cash	0717	Debit			
	Retail	0515	Debit			

Message types that are processed

"Message Types" form fields:

- *Name* – message type name.
- *Code* – transaction message code. The value is the code of the corresponding transaction type, set in the *Trans Type IDT* field of the "Transactions – All" form ("Full → Configuration Setup → Transaction Types → Transactions – All").
- *Dr Cr* – transaction direction (Credit, Debit, None).
- *Msg Rules* – additional parameters in the form of tags (see the section "Tags Used when Posting Documents" of the document "Documents").

2.2.3 Configuring an Authentication Type

Authentication types are configured in the "Authentication Types" form, menu item "CB Gate → Configuration → Authentication Types", for example:

Authentication Types				<< < > >>		1 of 7		X	
Name	Code	Auth Type Category	Is Ready						
Normal Card (Default account)	00	Auth Scheme	Ready						

Configuring the code to authenticate an account type

If a bankcard was processed in the Visa network and when making a transaction, the client selected the option to choose an account, his selection will be shown in an ISO8583 message in field 03 ("Processing code"), in positions 3 and 4 (for example, field 03: 304000 – balance request for "Universal" account type). The authorization service doesn't change this value. A check is made in the IRouter Service that this account type is supported. Then a search is made in Way4 for contracts with this account type.

"Authentication Types" form fields:

- *Name* – name of authentication type.
- *Code* – authentication type code; possible values: "00", "10", "20", "30", and "40".
- *Auth Type Category* – authentication type category.
- *Is Ready* – indicates whether the authentication type has been approved:
 - "Ready" – changes have been approved.
 - "Not Ready" – changes have not been approved.

2.2.4 Configuring Routing of Transaction Messages for the CBS

Routing of transaction messages for the CBS is configured in the "Routing Rules" form, menu item "CB Gate → Configuration → Routing Rules". Configure a routing rule, for example:

Routing Rules										<< < > >>		1 of 1		X	
For Domain	For Msg Type	For Request Cat	For Auth Type	Channel	StandIN RC	Rule Parms	Group Code	Is Active	To Send						
Core Banking Sy	Balance Inquiry		Normal Card (Default)	0		SEND_ALWAYS		Yes	in Online						

Rule for routing transaction messages for the CBS

A message is routed according to rules set in the fields *For Domain*, *For Msg Type*, *For Request Cat*, *For Auth Type*. The H2H routing service in the *Channel* field will be selected for this data.

"Routing Rules" form fields:

- *For Domain* – name of the domain for which the rule is used.
- *For Msg Type* – name of the message type for which the rule is used.
- *For Request Cat* – category of message for which the rule is used.
- *For Auth Type* – name of the authentication type for which the rule is used. If no value is set, any authentication type can be used.

- *Channel* – code of the H2H message service for the CBS. The field's value must correspond to the message channel setup and the code of the H2H service in the TS configuration.
- *To Send*
- "in Online" – all authorization messages (Request and Advice) will be sent to the CBS online. If there is no connection with the CBS, messages will be sent to the SaF queue.
The "in Online" value is used by default (if the field is empty).
- "Never Send" – authorization messages will not be sent to the CBS.
- "as SAF Advice" – all authorization messages (Request and Advice) will be sent to the SaF queue. This value is not recommended. TS automatically performs a similar action in real time when there is a peak load on WAY4H2HCBSAdapter.
- *StandIN RC* – code of the response to an authorization message if there is no connection with the CBS. If the response code value is "00", the transaction can be permitted.
- *Rule Parms* – rule for processing a transaction message using the SaF queue (see the section "Use of the SaF Queue for Processing a New Authorization Request").
- *Group Code* – reserved for forward compatibility.
- *Is Active* – indicates whether the rule is active.

2.2.5 Registering Authorization Procedures

To register authorization procedures, manually execute the following scripts (ows_home\opt\cb_gate directory):

- opt_cb_gate_b.sql
- opt_cb_gate_s.sql.



When installing the scripts listed below, custom settings made earlier in these scripts must be considered:

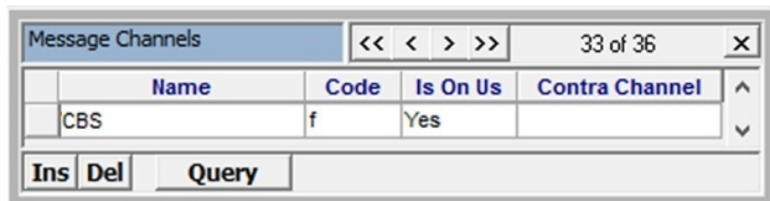
- cust/cust_add_serv.sql
- cust/cust_auth_bal_str.sql
- cust/cust_auth_end_request.sql
- cust/cust_auth_get_av.sql
- cust/cust_check_contract.sql.



In Way4, it is possible to work with a client balance that is processed in the CBS without using custom procedures (in particular, cust_check_contract and cust_auth_get_av). This functionality can be enabled in a card Product's settings (menu item "Full → Configuration Setup → Products → Product Definition → Products") by setting the tag CBS_CH=<Code_of_CBS channel>; in the *Custom Data* field (see "[Registering Message Channels](#)").

2.2.6 Registering Message Channels

To set up rules for processing transaction information, in the Way4 database, register the channel for interacting with the CBS with the "f" code. Setup is performed in the "Message Channels" form, menu item "Full → Configuration Setup → Main Tables → Message Channels":



Name	Code	Is On Us	Contra Channel
CBS	f	Yes	

Configuring message channels

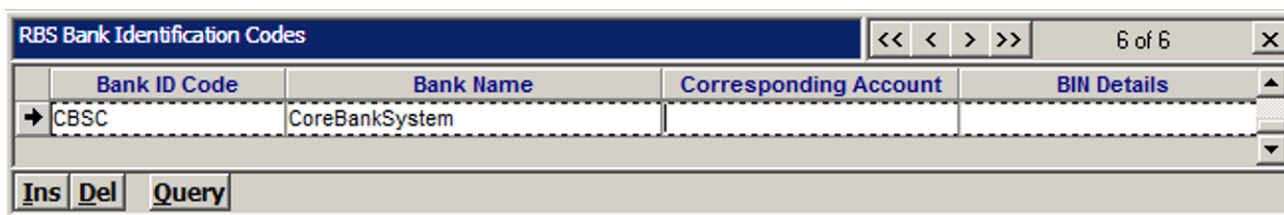
The value in the Code field must match the code that is specified in the corresponding TS configuration routing rule (Routing.s.xml):

```
<appComponent xsi:type="RoutingService">
...
<rule sourceService="IRouter" protocol="iss_fp" tags="TCH:f"
targetAddress="WAY4H2HCBS" name="To CBS"/>
...
</appComponent>
```

2.2.7 Configuring a Routing Contract

To set up routing of a transaction message, register Bank Identification Code (BIC) in the "RBS Bank Identification Codes" form, menu item "Full → Configuration Setup → Routing → RBS Bank Identification Codes". For example:

- *Bank ID Code* – "CBSC"
- *Bank Name* – "CoreBankSystem"
- *Corresponding Account* – the field is not filled in
- *BIN Details* – the field is not filled in



Bank ID Code	Bank Name	Corresponding Account	BIN Details
CBSC	CoreBankSystem		

Bank Identification Code

Adding the corresponding record to the "RBS" BIN group makes it possible to define the routing contract when processing transactions messages.

Name	Default Channel	Group Code	Routing Priority	Absolute Routing Priority
RBS	RBS	B	00	

Name	Member ID	Start BIN	End BIN	Proc Class	Term Cat	Brand	Sub BIN	Source	BIN Details
CoreBankSystem	CBSC	4081	4081					Own	

BIN table settings to search for a contract

2.2.8 Configuring Contracts of Transactions Authorized in the CBS

As soon as the IRouter service determines that it is necessary to contact the CBS for authorization of a transaction message, a route for it is searched for in the Way4 database. A search is made for the domain to which card contracts belong and its routing rule.

Therefore, card contracts with transactions that are authorized in the CBS must be specified ("Issuing → Contracts Input & Update → Issuing Contracts (Private) → [Cards]") in the following fields:

- *RBS #* – number identifying the client account in the CBS.
- *Member ID* – code of the domain that was registered earlier (see "[Configuring a Domain](#)").
- When registering card contracts that are subordinate to the higher-ranking contract according to a "Main/Sub" type, these values are automatically inherited from the higher-ranking account contract.

Contract # 4015500125896344 Client WILLIAM SMITH Contract Name WILLIAM SMITH Product TEST_AS_Main_Sub Acnt Scheme 001-Full Iss USD Priv Type 001-VISA GOLD Service 001-Our Priv VISA Report Type Cardholder Default Open/Close/Exp 17/02/2019 00/00/0000 17-04		Principal Private Resident RBS #, Member ID 43817810884000002278 CBSC Behavior Type Available USD -101,00 Auth Scenario Check Embossing: Title, First Name, Last Name, Company Usage Scenario Main and Ow MR WILLIAM SMITH Max PIN Tries 3 TEST COMPANY Comment Card Status Card OK Plastic Ready Approval Ready
---	--	--

Configuring client contracts

2.2.9 Configuring Service Packages for Processing Transactions in the CBS

If custom procedures are used to work with a client balance that is maintained in the CBS (see ["Registering Authorization Procedures"](#)), it is necessary to configure a Service Package allowing the authorization of certain transactions in the CBS.

Specify the tag CHANNEL=f; in the *Special Parm*s field of the corresponding Service Package's "Private Card Service Packs" form ("Full → Configuration Setup → Products → Issuing Private Products → Private Card Service Packs"). The letter "f" corresponds to the WAY4H2HCBSAdapter channel code (see ["Registering Message Channels"](#)), for example:

- *Name* – "001-Our Priv VISA"
- *Contract Type* – "Our VISA Cards"
- *Special Parm*s – "CHANNEL=f;"
- *Is Ready* – "Ready"

Private Card Service Packs									
	Name	Contract Type	Parent Pack	For Contracts	Use Default	Code	Fee Contract	Special Parm s	Is Ready
→	001-Our Priv VISA	Our VISA Cards		Product	None	PIV	001-CLIENT_FEE	CHANNEL=f;	Ready
Ins	Del	Query	Approve	Details	Misc	Source	Target	Additional	Usage

Service Package for processing transactions authorized in the CBS

2.2.10 Configuring Sending Card Status Change Messages to the CBS

If messages about changes in card status must be sent to the CBS, configure an Event that causes the card to be put in a stop list. Online notifications can be sent when a card is put in a stop list (see the document "Way4™ Stop Lists").

Notifications about putting a card in a stop list are sent to the CBS using the DBFileUpdate service that operates on the TS platform. Example of the DBFileUpdate.s.xml configuration file:

```
<service address="DBFileUpdate" autoStarted="false" xmlns:xsi=""
  xsi:noNamespaceSchemaLocation="../../temp/ts-config.xsd">
  <appComponent
    xsi:type="DBAdapter"
  >
    <script class="com.openwaygroup.ts.iso8583.h2h.impl.dbadapter.stoplist.Service"/>
    <poller maxParallelRequests="1"
      pollingInterval="60000"
      maxCursorSize="500"
      maxInjectionSpeed="300"
      maxWorkers="2"
      workersPerNode="1">
      <script class="com.openwaygroup.ts.iso8583.h2h.impl.dbadapter.stoplist.FileUpdateP
oller"/>
    </poller>
  </appComponent>
  <dependency service="WAY4DB"/>
</service>
```

In the Routing.s.xml configuration file, configure a routing rule, for example, that appears as follows:

```

<appComponent xsi:type="RoutingService">
...
<rule sourceService="IRouter" protocol="iss_fp" tags="TCH:f"
targetAddress="WAY4H2HCBS" name="To CBS"/>
...
</appComponent>

```

Set the global parameter STOPLIST_TS_CHANNELS to "f" (WAY4H2HCBSAdapter channel code, see ["Registering Message Channels"](#)). Global parameters are configured in the "Additional Global Parameters" form, opened with the menu item "Full → Configuration Setup → Main Tables → Additional Global Parameters".

Custom procedures should also manually be loaded (ows_home\opt\cbg_sl directory):

- opt_cbg_sl_s.sql
- opt_cbg_sl_b.sql.



When installing the scripts listed below, custom settings made earlier in these scripts must be considered.

- cust_contr_st_ch.sql
- cust_evnt_close.sql
- cust_evnt_post.sql.

2.3 Additional Functionality

The section describes settings for Way4 CB Gate additional functionality.

2.3.1 Substitution of Acquirer ID

If necessary, the following settings can be used to substitute acquirer ID in messages (ISO8583, field 32) sent to the CBS.

Set parameters for online communications with the CBS for the WAY4H2HCBSAdapter service. Determine the acquirer that will be specified in field 32 of the ISO8583 message. To do so, in the *Acq ID* field of the "Bank Acquiring Parameters" form (menu item "Full → Configuration Setup → Main Tables → Bank Acquiring Parameters") for the "Principal" financial institution, for example, specify the value of the *Bank Code* field of the "Principal" financial institution from the "Financial Institutions" table (menu item "Full → Configuration Setup → Main Tables → Financial Institutions"). Use the [Full Info] button to open the "Full Info for Bank Acquiring Parameters" form. In the *Additional Parms* field, add the tag "CBSC_F32=000001" ("CBSC" as "Acquiring member").

The screenshot shows two configuration windows. The top window, 'Bank Acquiring Parameters', has a table with columns: Acq ID, Member ID Type, Institution, Is On Us, Euro AID, VISA AID, VISA FID, VISA ATM AID, SMS FID, SMS PMC, SMS Setti ID, and SMS AWK. The 'Acq ID' field is highlighted with a red circle. Below the table are tabs: Ins, Del, Query, Check, Full Info, and Parm Groups. The 'Full Info' tab is active, showing a form with fields for 'Our Acquirer ID' (0001), 'Institution' (Principal), and various AID/FID fields. The 'Additional Parms' field contains 'CBSC_F32=000001', which is also highlighted with a red circle. The bottom window, 'Financial Institutions', has a table with columns: Name, Bank Code, Branch Code, CB Code, Clearing In, Parent Institution, Clearing Scheme, Local Currency, Country, Interest Scheme, and Numeration. The 'Bank Code' field is highlighted with a red circle. Below the table are tabs: Ins, Del, Query, Check, Init Settings, Refr Settings, Children Refr, Currency, Routing, Interbranch, Messages, and Details.

Settings for online communication with the CBS

To specify the TS adapter's link with the main financial institution, the configuration file of the WAY4H2HCBSAdapter service must contain the following parameters:

```
< ask_acquirer_params name_for_aid ="CBSC_F32"/>
```

2.3.2 STIP setup

The following settings are required to support Stand-In Processing (STIP).

2.3.2.1 STIP Settings in the Domain

Rules for synchronizing STIP balances are configured using tags in the *Data Domain* field of the "Domains" form.

The rule for online synchronization of STIP balances is defined using the ONLINE_BALANCE_SYNC tag:

- ONLINE_BALANCE_SYNC=N; – the STIP balance is not sent in the online response from the CBS (field 54).
- ONLINE_BALANCE_SYNC=Y; – the STIP balance will be sent in the online response from the CBS (field 54).

The default value is ONLINE_BALANCE_SYNC=Y;.

The SKIP_TRN_REF_CHCK; tag is used to define the rule for importing STIP balances from the CBS to Way4. If the file imported to Way4 does not contain the identifier of the last authorization message (LastAuthId) for a contract, when the SKIP_TRN_REF_CHCK; is set, transactions recorded in Way4 for this contract are not matched.

To disable STIP mode for cards whose balance is maintained in the CBS, use the MODE=ROUTER; tag. In the *Rule Parms* field of the "Routing Rules" form, set the SEND_ALWAYS; tag for the corresponding domain.

2.3.2.2 Configuring a Balance Type for STIP

Register a balance type whose value will be used by STIP (if transactions are permitted when there is no connection with the CBS). The balance type is registered in the "Balance Types" handbook as follows:

- *Code* – "CB"; this value is hardcoded and cannot be changed.
- *Name* – "Core Balance".
- *Posting Details* – the field is not filled in.

Setup is performed in the "Balance Types" form, menu item "CB Gate → Configuration → Balance Types".

Balance Types										<< < > >>		1 of 15	X
	Name	Code	Main Only	By Billing	Is State	DIQ Code	DIQ Level	Skip Liab	Direction	Group Code	Posting Details		
→	Core Balance	CB	For All				0		None				
													▼
Ins		Del		Query		Recalc		SubBal of		Includes			

Configuring a Balance Type for STIP

For a detailed description of the "Balance Types" form, see the section "Registering Balance Types" of the document "Balance Types".

A balance type for STIP can be redefined in a specific card Product's settings. A balance type code is set in the tag STIP_BT=<BalanceTypeCode>; in the Product's *Custom Data* field (menu item "Full → Configuration Setup → Products → Product Definition → Products"). If the tag is not set, the aforementioned balance type with the "CB" code is used.

2.3.2.3 Parameters for Authorization Queuing using SaF Technology

For CBGate to work in Stand-In authorization mode, it is necessary to configure sending messages regarding authorizations using the SaF queue for guaranteed delivery.

SaF technology, parameters, and form fields are described in detail in the section "Store and Forward Configuration" of the document "Installing and Configuring Transaction Switch Platform-Based Solutions".

Configure parameters for guaranteed message delivery on the SaF logical channel, menu item "Full → Acquiring → Online Logs → Logical Channels (SaF)" → [Settings], for example:

- *Direction* – "Outward"
- *Mess Type* – "0120" ("0220", "0420")
- *Attempt Limit* – "3"
- *First Interval* – "5"
- *Retry Interval* – "60"
- *RCs to Close* – "00"
- *Expiry Period* – "0".

Logical Channels (SaF)
4 of 5

Code	Name	SAF Waiting	SAF Suspended
V1	VIPVIP	0	0
S1	SMS	0	0
AT	ATM	0	0
B1	CBS	0	0
P1	Bill	0	0

Ins Del Query Settings Messages Physical

Settings for CBS
1 of 3

Channel ID	Direction	Mess Type	Attempt Limit	First Interval	Retry Interval	Retry Intervals for RCs	RCs to Close	Expiry Period
B1	Outward	0120	3	5	60		00;	0
B1	Outward	0220	3	5	60		00;	0
B1	Outward	0420	3	5	60		00;	0

Ins Del Query

```

<appComponent
  xsi:type="SAFService"
  protocol="iss_fp"
  safServiceId="B1"
>

```

Configuring parameters for SaF

The SaF channel code should be specified in the domain settings (*Domain Data* field, see "Configuring a Domain") using the SAF_CH tag, for example, "SAF_CH =B1;".

2.3.2.4 Use of the SaF Queue for Processing a New Authorization Request

When the connection with the CBS is restored, new authorization is processed in following order:

- if the "SEND_ALWAYS;" tag (see "Tags in CB Gate Setup") is set in the domain settings (*Domain Data* field of the "Domains" form) or in the routing rules (*Rule Parms* field of the "Routing Rules" form), a new transaction is sent to the CBS without checking the SaF queue.
- if the "SEND_ALWAYS;" tag is missing, the queue is checked in the SaF channel with code specified in the SAF_CH tag in the domain settings. The same SaF channel code must be specified in the configuration file of the SAF service for the H2H adapter ("safServiceId" parameter). The queue is examined within the bounds of one contract. If the SaF queue is not empty, a transaction is put in the SaF queue. A decision on a new authorization will be taken after processing all messages in the "Waiting" status – a new authorization will be sent if all previous messages in the queue have the "Closed" status. If the queue is empty, the authorization request is sent to the CBS.

2.3.2.5 Configuring Limiters for Stand-in Authorizations

Limiters can be set for a specific card contact or for a Product (see the section "Principles of Usage Limiter Operation" of the document "Usage Limiters").

Options for limiter use:

- Transaction – limiters that are checked (and counters updated) for any transactions; for those permitted by the CBS and for those permitted by Way4 (Usage Type = Transactions, see the section "Principles of Usage Limiter Operation" of the document "[Usage Limiters](#)").
- STIP – limiters (Usage Type = STIP) that are only checked (and counters updated) when the following conditions are met:
 - The CBS is unavailable.
 - The STIP balance is depleted (less than the transaction amount).
 - Transactions are permitted by CB Gate.



STIP limiters work the same way as "Overdraft" limiters (see the section "General Templates" of the document "[Usage Limiters](#)").

- Special processing mode that allows a limiter counter to be accumulated when a transaction with a balance request is made in the CBS, and in STIP mode, but thresholds are checked in STIP mode only. This makes it possible to set separate limits on transactions depending on whether there is access to the CBS. The mode can be used for "Transactions" or "Credit" limiters. The ability to separately accumulate counters and make checks using a limiter hierarchy, corresponding to the following conditions:

- The parent and child limiters are the same type (*Usage Type*).
- For the child limiter, the parameter *Processing Mode* = STIP is set.
- For the child limiter, the parameter *Exclude From Parent* = See Parent is set.

In this case, the parent limiter accumulates counters and can have its own thresholds that are checked. The child limiter doesn't keep counters, but in STIP mode, checks the values accumulated by the parent limiter, relative to its own counters.

- If the parameter *Exclude From Parent* = See Parent is not set for a limiter with *Processing Mode* = STIP, the limiter's values will be accumulated and checked only when transactions are made in STIP mode.

2.3.2.5.1 Possible setup procedure for *Usage Type* = STIP:

- Register an additional Service Package, for example, "XXX-CB STIP usages" (see the section "Configuring Additional Service Packages" of the document "Way4 Service Packages"). Register limiters in the additional Service Package, for example:

Service Packs												<< < > >>			22 of 1277		X	
Category	Institution	Client	Contract Type	Name	Code	For Contracts	Parent Pack	Fee Contract	Tariff Domain	Is Ready	Auth Conf Mode							
Card	Principal	Private	Our VISA Cards	XXX-CB STIP usages		Additional				Ready								
Ins	Del	Query	Approve	Misc	Source	Target	Additional	Usage	Events	Messages	Group Msg	Preferred	Details					
Usage for XXX-CB STIP usages												<< < > >>			1 of 1		b	X
Usage Code	Usage Type	SIC Group	Channel	Operation	Period	Period Type	Usage Event	Fee Type	Max #	Max Amnt	Max Pcnt	Max Sngl Amnt	Amnt Curr	Is Active	Is Ready	Proc.Mode		
Usage for STIP	STIP		VISA		1	Month	Usage		0	10,000.00	3.00	1,000.00USD		Yes	Ready	On Line		
Ins	Del	Query	Details	Approved	Messages													

Configuring a limiter in an additional Service Package

This setting means that when the CBS is unavailable, after the STIP balance has been depleted, transactions for a total amount of up to 10,000 USD per month can be processed; however, each transaction may not exceed an amount of 1,000 USD.

For example, when these STIP limiter settings are used, the CBS is unavailable and the STIP balance is 500 USD:

- A transaction for 400 USD will be made without checking the STIP limiter, since the STIP balance is sufficient for the transaction to be made.
- A transaction for 1,000 USD initiates a check of the STIP limiter and will be made since it meets all the limiter's conditions.
- A transaction for 1,100 USD initiates a check of the STIP limiter and will be rejected since the transaction amount exceeds the STIP limiter's "Max Sngl Amnt".
- Attach the Service Package "XXX-CB STIP usages" to the main Service Package set up earlier "001-Our Priv VISA":

Private Card Service Packs										<< < > >>		1 of 1		x	
Name	Contract Type	Parent Pack	For Contracts	Use Default	Code	Fee Contract	Special Parm	Is Ready							
001-Our Priv VISA	Our VISA Cards		Product	For Dispute	PV	001-CLIENT_FEE	CHANNEL=g	Ready							
Ins	Del	Query	Approve	Details	Misc	Source	Target	Additional	Usage	Messages	Events	Preferred			
Additional for 001-Our Priv VISA										<< < > >>		1 of 1		b	x
	Priority	Add Pack		Is Ready	Active by Default										
		XXX-CB STIP usages		Ready	Yes										
Ins	Del	Query	Source	Target											

Attaching "XXX-CB STIP usages" to the main Service Package

2.3.2.5.2 Sample setup of a limiter with *Processing Mode* = STIP

- Register an additional Service Package, for example, "XXX-CB STIP usages" (see the section "Configuring Additional Service Packages" of the document "Way4 Service Packages"). In the additional Service Package, register two limiters with the same type, for example:

Service Packs										<< < > >>		1 of 703		X					
	Category	Institution	Client	Contract Type		Name		Code	For Contracts	Parent Pack									
➔	Card	Principal	Private	Our VISA Cards		XXX-CB STIP usages			Additional										
< >																			
Ins	Del	Query	Approve	Misc	Source	Target	Additional	Usage	Events	Messages	Group Msg								
Usage for XXX-CB STIP usages														<< < > >>		2 of 2		b	X
	Usage Code	Usage Type	Proc.Mode	Period	Period Type	Usage Event	> Ty	Max #	Max Amnt	Max Pcnt	Max Sngl Amnt	Amnt Curr	Is Active						
	4_CBSandSTIP	Transactions	On Line	1	Month	Usage		0	0,00	3,00	1 000,00	USD	Yes						
➔	4_STIP	Transactions	STIP	1	Month	Usage		0	9 000,00	0,00	0,00	USD	Yes						
< >																			
Ins	Del	Query	Details	Approved	Messages														

Configuring limiter hierarchy in an additional Service Package

- For the limiter "4_STIP", specify "STIP" in the *Processing Mode* field. Click the [Details] button to open the form with detailed information. In the *Parent Usage* field, specify the parent limiter's

code "4_CBSandSTIP" and in the *Exclude From Parent* field, "See Parent". With these settings are used and the CBS is unavailable, the "4_STIP" limiter will check the "4_CBSandSTIP" parent limiter's accumulated amounts counter value relative to its own *Max Amnt* field within the time interval that is set in the *Period* field.

- Attach the Service Package "XXX-CB STIP usages" to the main Service Package "001-Our Priv VISA" that was set up earlier (see [figure](#)).

2.3.3 Prohibiting Authorizations for a Contract in STIP

The "STIP_STATUS" user classifier is used to prohibit processing authorizations for a certain contract in STIP mode. The code of the negative response returned to the CB_GATE channel is set in this classifier. The "STIP_STATUS" classifier is assigned to a contract for which processing in STIP is prohibited.

The "STIP_STATUS" user classifier is set in the "User Classifiers" form, menu item "Full → Configuration Setup → Common Handbooks → User Classifiers". For example:

The image shows two screenshots of a software interface. The top screenshot is the 'User Classifiers' form, showing a table with columns: Name, Code, Category, Applies To, Client Cat, Contract Cat, Product Cat, Role, Domain-base, Add Info, On Off Mode, and Log Changes. The bottom screenshot is the 'Values for CBS STIP Card Status' form, showing a table with columns: Weight Factor, Name, Code, Result Event Code, Is OK Value, Add Info, Is Active, Date From, and Date To.

Name	Code	Category	Applies To	Client Cat	Contract Cat	Product Cat	Role	Domain-base	Add Info	On Off Mode	Log Changes
CBS STIP Card Status	STIP_STATUS	Status	Any Contract		Account	Issuing	Primary				Value

Weight Factor	Name	Code	Result Event Code	Is OK Value	Add Info	Is Active	Date From	Date To
0	Do not honor	05		No		Yes	00/00/0000	00/00/0000

Configuring the "STIP_STATUS" user classifier

The "STIP_STATUS" classifier code is predefined and its value is specified in the *Code* field of the "User Classifiers" form.

The *Code* field of the "Values for ..." form specifies the code of the negative response that will be generated in the message (ISO8583) when an attempt is made to process an authorization for this card in STIP mode.

"User Classifiers" and "Values for ..." form fields are described in the section "Configuring Hardcoded User Classifiers" of the document "Way4 Client and Contract Classifiers".

Generally, the "STIP_STATUS" user classifier is assigned to an account contract whose balance is checked in the CBS. Card contracts with authorization scenario *Auth Scenario* = "Check" are an exception. In this case, a classifier can be assigned to a card contract.

For the procedure to assign a classifier, see the section "Manually Changing Classifier Values" of the document "Way4 Client and Contract Classifiers".

To prohibit authorization in STIP mode for contracts that are subordinate to an account contract (for authorization scenario *Auth Scenario* = "See Main"), do as follows:

An account contract for which the classifier is set

Set For	Classifier	Classifier Value	Previous Value	Value Date	Value Description	Officer
001-P-736668	CBS STIP Card Status	Do not honor		01/04/21 14:14:03		SUPERUSER

"STIP_STATUS classifier value assigned to a contract

All authorization attempts in STIP mode for contracts that are subordinate to the account contract will be declined with RC "Do not honor" (05).

2.3.4 Loading STIP Balances

ASCII format files are supported.

2.3.4.1 Pipe for Loading Balances

Balance files used during authorization when the CBS is unavailable are loaded to Way4 using a standard Java pipe – "com.openwaygroup.pipe.cb_gate_balance_load.jar".

The "Load Stip Balance" menu item is used to run the Java pipe ("Full → CB Gate → Runtime → Load Stip Balance").

Files with contract balances can be loaded in several parallel threads.

2.3.4.2 Java Pipe Parameters

The pipe "com.openwaygroup.pipe.cb_gate_balance_load.jar" is used with the following parameters:

Parameter	Default value	Parameter description
SOURCE_DIR	@RBS_INTERCHANGE_DIR@\\IN\	Directory where loaded files should be put.
PROCESSED_DIR	@RBS_INTERCHANGE_DIR@\\arch\	Directory in which text files containing information about loaded records should be put.
N_OF_PARALLEL_THREADS	4	Number of parallel threads for loading pipes.
COMMIT_INTERVAL	1000	The parameter determines the number of records loaded after which in each thread changes are committed to the Way4 database.
FILE_MASK	CBGB*.txt	Name of loaded file.

2.3.4.3 File Format

File format is described in the document "STIP Balance File Format" (STIP_Balance_Format.pdf).

2.3.5 Scheduled Loading of STIP Balances

Use Way4 Scheduler (see the document "Scheduler R2") to load STIP balances according to a schedule, or with a certain frequency.

3 Tags in CB Gate Setup

Name	Default value	Description
Tags set in a domain's <i>Domain Data</i> field (TD_DOMAIN.DOMAIN_DATA)		
SEND_STIP_BALANCE	N	<p>Prohibits sending STIP balance values (balance of a contract with the "CB" code) to an acquirer bank if authorization was performed by Way4 in STIP mode (CBS is unavailable).</p> <p>Information about the balance value will only be sent to the acquirer bank if the CBS is available. The balance value (field DE55) is sent in the response message from the CBS (0210 response message).</p> <p>The tag is set in the "Domains" form, menu item "CB Gate → Configuration → Domains".</p>
ONLINE_BALANCE_SYNC	Y	<p>Rules for online synchronization of the STIP balance:</p> <p>N – balance data received in the online message from the CBS will not be used to update the STIP balance.</p> <p>Y – the STIP balance will be sent in the online response from the CBS (field 54).</p> <p>The tag is set in the "Domains" form, menu item "CB Gate → Configuration → Domains".</p>
SKIP_TRN_REF_CHK;		<p>If the file imported to Way4 does not contain the identifier of the last authorization message (LastAuthId) for a contract, when the SKIP_TRN_REF_CHK; tag is set, transactions recorded in Way4 for this contract are not matched.</p> <p>The tag is set in the "Domains" form, menu item "CB Gate → Configuration → Domains".</p>
MODE=ROUTER;		To disable STIP mode for cards whose balance is maintained in the CBS.

Name	Default value	Description
DOMAIN_CURR		<p>The domain currency code is set in the tag. The Settlement Amount will be sent to the WAY4H2HCBSAdapter with conversion to the domain currency. This functionality is used, for example, if the CBS only supports one currency.</p> <p>The tag is set in the "Domains" form, menu item "CB Gate → Configuration → Domains".</p>
SUPPRESS_NEGATIVE_ADVICE;		The tag excludes Advices about negative authorizations from being sent to the CBS.
SEND_ALWAYS		When the connection with the CBS is restored, a new authorization request will be sent to the CBS without checking the SaF queue. The tag does not have a specific value and is set as SEND_ALWAYS;.
SAF_CH		Channel code for SaF queue (according to the <i>Channel Id</i> field of the "Logical Channels (SaF)" form, menu item "Full → Acquiring → Online Logs → Logical Channels (SaF)").
Tags set in the <i>Rule Parms</i> field of transaction routing rules (TD_RT_RULE.RULE_PARMS)		
SEND_ALWAYS		Similar to the SEND_ALWAYS tag described above for domain settings (<i>Domain Data</i> field).
Tags set in the <i>Special Parms</i> field of the Service Package (SERV_PACK.AUTH_CONF_MODE)		
CHANNEL		<p>The code of the channel with the CBS is set as the tag value (see the section "Registering Message Channels"). Transactions processed by a Service Package in which this tag is set will be authorized in the CBS.</p> <p>The tag is set in the "Private Card Service Packs" form, menu item "Full → Configuration Setup → Products → Issuing Private Products → Private Card Service Packs"</p>
Tags set in a card Product's <i>Custom Data</i> field		

Name	Default value	Description
CBS_CH		The code of the channel with the CBS is set as the tag value (see the section "Registering Message Channels"). It is similar to the CHANNEL tag but includes support for authorizations without custom procedures (in particular, cust_auth_get_av and cust_check_contract).
STIP_BT		A balance type code whose value will be used by STIP (if transactions are permitted when there is no connection with the CBS) is set as the tag value. If the tag is not set for the corresponding card Product, a balance type with the "CB" code is used.