WAY4™
CB Gate

Contents

Introduction

This document is the functional specification for WAY4™ CB Gate. The document describes the product's functionality.

This document provides an introduction to WAY4 CB Gate functionality and operating principles.

Overview

WAY4 CB Gate provides issuers an online interface between WAY4 and the Core Banking System (automated banking system) to check for available funds when making card transactions. If the Core Banking System (CBS) is unavailable, an authorisation request can be approved on the basis of balances loaded to WAY4 from the CBS earlier.

Such processing of authorisation requests can be applied to all the bank's cards, to the cards of a specific financial institution, or even to the cards of a particular WAY4 Product.

WAY4 CB Gate allows bank clients to make online transactions without showing a card, and card operations using one account (within the card's balance). This allows clients to control their funds and lower the risk of overdraft

When an authorisation request is received from device controllers, IPS network or host-to-host interfaces, WAY4 performs the main checks, specific to working with cards. Then a request for the existence of the required funds in the client's bank account is sent to the CBS and depending on the response received, the transaction is either permitted or declined. Responsibility for checking available funds falls on the CBS.

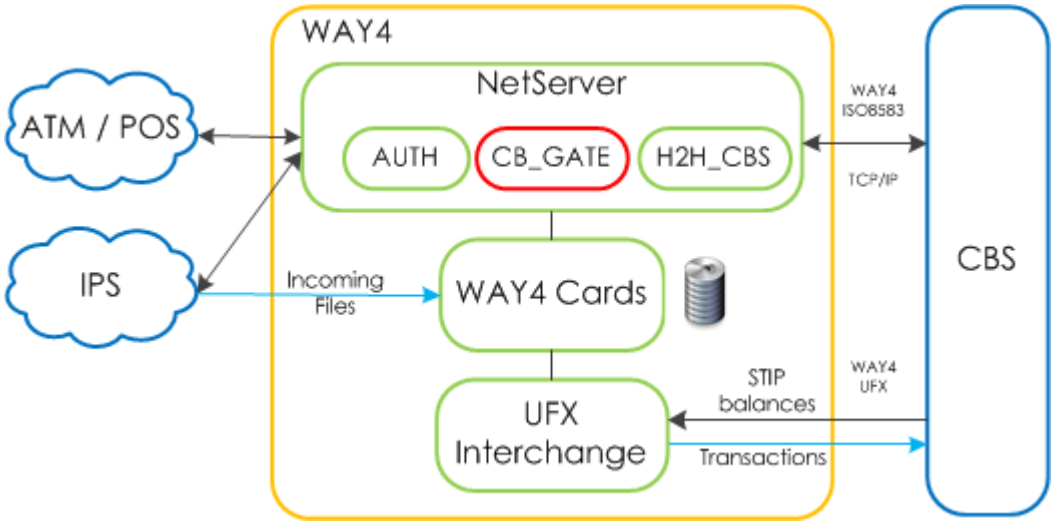
WAY4 CB Gate can make it possible to calculate fees and check various transaction limits when processing authorisation.

For successful implementation of WAY4 CB Gate, the CBS must have an online interface module. The module must generate responses to authorisation requests, and block funds in client accounts and maintain a record of available funds (which are usually not equal to the financial balance of a client's account).

Solution Architecture

Bankcard transaction messages are sent to a special own authorisation channel (AUTH). Standard authorisation steps are performed in this channel and cryptographic values are checked.

Further, all transactions messages whose support and routing is configured in the CB_GATE configuration file and in the WAY4 database, are sent to the CB_GATE channel.



Then, according to settings, CB_GATE routes requests to the corresponding CBS H2H channel (H2H_CBS). WAY4 ISO8583 dialect is used to interact with the CBS.

After getting a response, the result and value of available funds received from the CBS are recorded by CB_GATE in the WAY4 database. The AUTH channel completes the authorisation procedure and sends a response.

If the CBS channel is unavailable, CB_GATE provides so-called Stand-in Processing (STIP); i.e. a decision is made for the CBS based on authorisation balances loaded earlier (STIP balances), with consideration for the amounts of transactions processed from the time the CBS became unavailable. All decisions on transactions while the CBS is unavailable create an SAF (Store-and-Forward) queue. As soon as the CBS becomes available, it is sent the messages from the SAF queue.

To synchronise available funds in card accounts in the CBS and in WAY4, a file interface for loading STIP balance data is provided. Data import in UFX (Universal Financial eXchange) format is supported.

Functionality

WAY4 CB Gate provides the following functionality:

- Online and Stand-in authorisation for CBS balances.
- Sending the CBS a file of presentments for cards authorised in the CBS.
- Loading CBS balances.
- Stand-in authorisation according to limiters.

Online and Stand-in authorisation for CBS balances

WAY4 CB Gate provides the following options for checking balances:

- Online authorisation for transactions with the balance checked in the CBS (if it is available).
- Stand-in authorisation for transactions with the balance checked based on balance data imported earlier from the CBS – STIP (Stand-In Processing).

Transfer between options takes place automatically for each transaction in the following cases:

- Scheduled shutdown of the CBS and receipt of the corresponding notification from it.
- Emergency, unscheduled shutdown of the CBS, for example, a timeout if a transaction was not process during a specified time period.
- Restoring availability (when the connection is restored after emergency shutdown and receipt of notification from the CBS that it is available).

If the CBS is available, a decision on authorisation is taken on the CBS side, information about the balance of funds is sent in the response message. For STIP, a decision on the existence or absence of the required amount available is taken using information about the balance at the time of the last transaction for the account – data sent by the CBS in the response for the previous transaction or data imported from the CBS in a file (see "Importing CBS Balances").

Data on STIP authorisations are accumulated and sent to the CBS after the connection is restored. Accumulated data are sent sequentially according to the order in which authorisation was made. Store And Forward (SAF) technology is used.

Rules for processing a new authorisation request (Advice) with respect to the SAF queue when the connection with the CBS is restored:

- A new request for a card is put at the end of the queue of transactions for this card processed in STIP; a new request will only be processed in the CBS after accumulated authorisation data is sent to the CBS.
- A new request will be sent directly to the CBS bypassing the existing queue for this card; in this case, the risk of overdraft increases.

It is possible to stop clearing the SAF queue according to commands from the CBS.

It is possible to import part of an SAF queue in a file. While the file is being imported to the CBS, clearing of the queue is stopped. After the file is imported, the SAF queue is cleared with consideration of those data that were exported in the file.

It is possible to configure the list of message types and transaction types that will be supported on the channel for interaction with the CBS.

In the basic delivery, the following transaction types are supported:

- ATM Cash Withdraw.
- POS Cash.
- Retail.
- Note Acceptance (Cash-In).
- Balance Inquiry.
- Payment.
- Cashback.
- Unique.

Sending the CBS a file of presentments for cards authorised in the CBS

On the WAY4 UFX Doc file interface, it is possible to send the following at the end of the day:

- Presentments for authorisations sent online. (Matching must be performed by the CBS based on the SRN – Source Registration Number).
- Messages that do not require authorisation (if any for cards authorised in the CBS).

Loading CBS balances

In order for work to be possible when the CBS is unavailable, up-to-date data are kept in WAY4 on the amount permitted for use – STIP balances for each contract authorised in the CBS. Only financial transactions, balance imports and authorisations are considered in a STIP balance. By default, other financial documents are not considered.

STIP balances are sent:

- In responses for successful transactions serviced by the CBS online: the CBS returns the account's current balance (balance type 02) in field 54.
- In a file generated by the CBS.

A file with balances is immediately loaded to WAY4 as soon as it is generated on the CBS side. STIP balances have unique identification numbers (SRN).

After loading a file with STIP balances, SRN is used to determine transactions that are already considered in the sent file and, correspondingly, the blocked

amount is corrected, and the available balance is corrected with consideration of the authorisation scenario and contract hierarchy.

A balance sent in an online response from the CBS also updates a card account's STIP balance.

Stand-in authorisation according to limiters

WAY4 CB Gate provides for the processing of special transaction limiters (STIP limiters) that are activated on the following conditions: the CBS is unavailable, transactions are permitted by CB Gate, the balance is depleted. For example, a limiter can be set that allows no more than 5 transactions made at an ATM for an amount of up to 1000 euros to be processed for a card, when the CBS is unavailable.

STIP limiters can be defined for a specific card contract or for a Product.

Use Cases

WAY4 CB Gate can be used for the following:

- Managing debit card accounts in the CBS. In this case, responsibility for checking amounts and for a decision on the availability of funds in the account falls on the CBS.
- Processing acquirer notifications about authorised transactions with the aim of changing available funds in the CBS.
- Routing transactions to the CBS depending on configurable card groups and/or transaction parameters. For example, credit transactions are not sent; debit transactions are sent.
- Account Selection functionality. Selection of the type of account for the balance of which a transaction can be authorised. When initialising the transaction, an account of the specified type is selected, for which the operation will be made.

Additional requirements and limitations

WAY4 CB Gate operates parallel to the standard WAY4 authorisation subsystem and balances generated by standard authorisation do not influence STIP balances.

The CBS must ensure constancy of an account balance from the time a notification is sent for WAY4 CB Gate about an upcoming period of unavailability.

The CBS must be able to identify emergency shutdown of WAY4.

If a new authorisation request comes in during SAF processing, the authorisation request will be processed in parallel with clearing the SAF queue; therefore, the risk of overdraft is possible.

For the H2H interface with the CBS to process authorisation requests and send notifications, the WAY4 ISO8583 dialect is used. The transport protocol is TCP/IP.

Interaction with the CBS for loading STIP balance data is built on a file interface. STIP balance files are sent in WAY4 UFX (Universal Financial eXchange) xml format.

When sending financial presentments for authorisations sent online, matching is performed by the CBS on the basis of the SRN – Source Registration Number.