Functional Specification

ATM Management R2 Functional Specification

03.50.30

18.04.2020

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This document is the specification for the ATM Management solution and describes its functionality.

This document is intended for bank and processing centre employees as an introduction to the principles of ATM management in WAY4.

The following notation is used in the document:

Warnings about potentially hazardous situations or actions.

Information about important features, additional options or the best use of certain system functions.

1. Overview

WAY4 ATM Management is a solution that offers banks the ability to make the most of their ATM networks, including all stages of their operation: deployment, service, and monitoring.

WAY4 ATM Management enables banks and processing centres to provide a wide range of services through automated service of cardholders at ATMs: from cash withdrawal and mini-statements, to money transfers and instant top-up of accounts.

WAY4 ATM Management uses industry-standard encryption methods and communication protocols, automates operations and provides convenient tools for flexible setup and management of ATMs.

As an optional feature the solution can include a convenient user interface for building and debugging ATM configurations. It's easy for banks to manage all a configuration's standard elements, which makes it possible to quickly implement new services.

WAY4 ATM Management operates on the new-generation WAY4 Transaction Switch software platform, allowing distributed processing of transactions and intellectual routing of requests with high performance and availability.

The WAY4 ATM Management solution is compliant with the requirements of international payment systems and ensures the necessary security levels.

2. Solution Architecture

WAY4 ATM Management operates on the Transaction Switch platform and has all the architectural capabilities of this platform with regard to scalability, high performance, high availability and guaranteed delivery of transaction messages. More detailed information about the advantages of solutions on the Transaction Switch platform is provided in the document "WAY4™ Transaction Switch. Functional Specification".

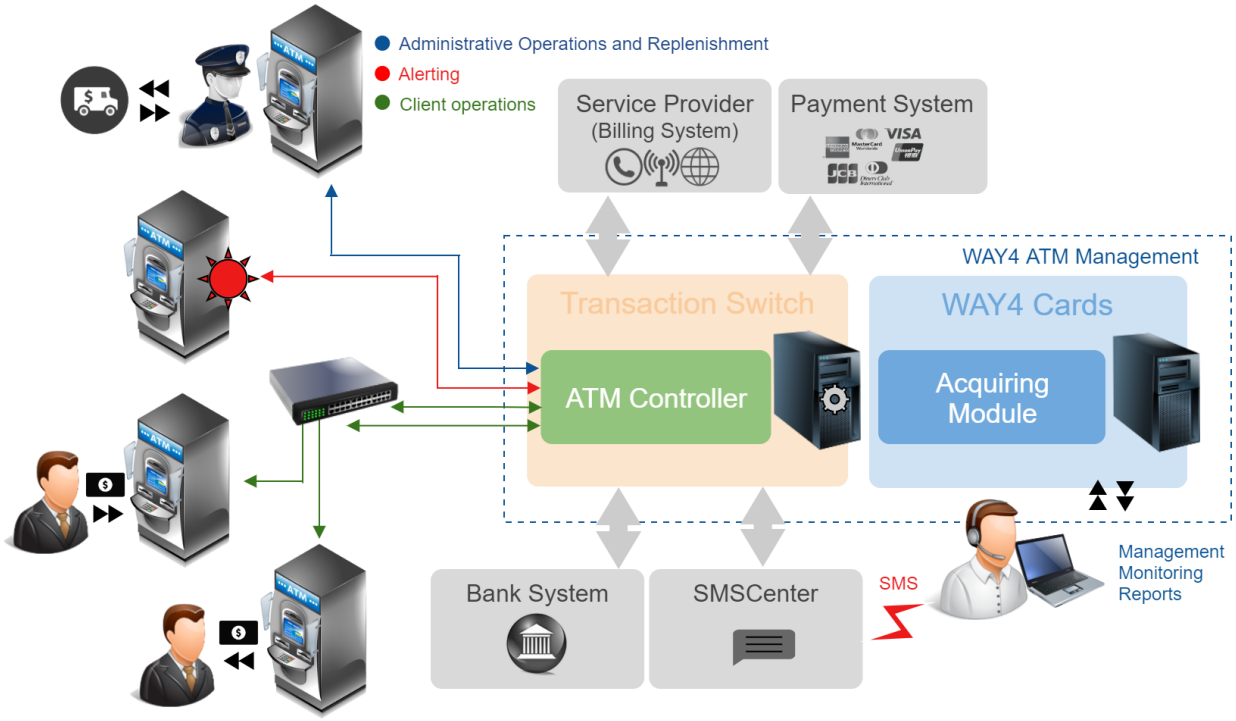

Fig. 1. ATM Management architecture

WAY4 ATM Management architecture uses the following components:

- ATM Controller – Transaction Switch software component (service) responsible for communication between the ATM network and the processing centre (WAY4 acquiring module). This communication includes transmitting management commands to ATMs, accepting messages from ATMs, transmitting response codes, etc.When processing requests and messages from ATMs in the ATM protocol's format, they are converted into the necessary format for further routing to payment systems, bank systems, and billing systems. When response messages or management commands are received, ATM Controller processes them, converts them to NDC format and sends them to the appropriate ATMs.ATM Controller makes it possible to flexibly configure rules for processing requests from ATMs, generation of response messages, the content of information shown on screens and for printing receipts when performing various operations.During operation, ATM Controller communicates with the WAY4 acquiring module.ATMs communicate with ATM Controller through TCP connections that transmit messages in both directions. An ATM

establishes a connection with the controller based on an IP address and port number that are defined in the device's software settings.

- The WAY4 acquiring module is included in the WAY4 Cards component and is responsible for the following:
  - Registering information about merchants, terminal devices, and ATMs acquired by the acquirer.An ATM is registered in WAY4 by entering the corresponding subcontract for an account contract (see "Acquiring Module. User Manual"). When registering an ATM contract, data are entered that are necessary for the ATM to operate in the system, for example, the type of ATM, its location, unique device ID in the system, etc.
  - Parameterisation of rules for processing operations made in an ATM's lifecycle (maintenance, replenishment, provision of bank services).
  - Registration of data on an ATM's transaction activity to accompany financial cycles (recording the movement of funds and subsequent reconciliation after ATM replenishment) and clearing.When accepting and processing transaction information, the ATM Controller calls acquiring module stored procedures for creating or changing documents that contain data on transactions and register the movement of funds.
  - Registration of the states of an ATM's and device's separate software components for monitoring and taking prompt measures to restore their performance.
  - Interface (ATM management console) for sending management commands directly to the controller, ATM, or group of ATMs.These commands, for example, include: put an ATM into service/take an ATM out of service, get an ATM's current configuration, get current values of banknote counters; manage the ATM's status states and those of its separate components, manage security keys; load a configuration to an ATM, terminate (with the controller) the network connection with an ATM on the transport layer, etc.
  - Generation of reports for ATM financial cycles on cash accepted and dispensed, state of cassettes, and transactions.

3. Functionality

The WAY4 ATM Management solution is used for the following business tasks:

- ATM network operation
- Provision of bank services through ATMs.

This chapter lists the solution's functionality in the context of these tasks. Some functionality is optional and requires separate licenses from the WAY4 vendor.

3.1 ATM Network Operation

Operation of an ATM network includes tasks for deploying ATM networks, monitoring and scheduled maintenance.

3.1.1 Deploying ATM Networks

- ATM network deployment includes the following:
- Registering ATMs in WAY4.
- Building a configuration and loading it to an ATM (group of ATMs).
- Generating and loading security keys into an ATM.

3.1.1.1 Registering ATMs in WAY4

Each ATM is registered in the WAY4 acquiring module as a subcontract of an account contract with a specific Accounting Scheme in which accounts show movement of funds resulting from financial transactions and with specific Service Packages determining the possibility and conditions for providing services on this device. In addition, data required for the device to operate are specified in the ATM contract. For example, the type of ATM is specified, its location, IP address, device's unique ID in the system, etc.

For each ATM in WAY4, it is possible to set the available components of its construction that are actually used by the device. By default, all possible components of the construction for this ATM type are defined for an ATM. Each component has an availability status. The ATM Management user interface makes it possible to change the status of a component by sending the appropriate commands to the ATM.

Each ATM is identified by a unique code with up to 8 characters (for a number of ATM modules, Latin letters may be used as the first three characters).

For ATMs whose software does not provide for transmitting information about transaction currency, a default currency can be defined.

Depending on the technical characteristics of the ATM cash dispenser, limits can be set on the maximum number of banknotes that the ATM can dispense in one operation.

Nominal typing of ATMs is possible to define similar properties that are characteristic to each ATM of this type:

- ATM vendor name
- ATM model
- Name of the specialised protocol
- ATM configuration
- ATM component used to manage the ATM.
- Types of accounts related to the ATM contract.

For an ATM, a denomination type is set that determines the types of cassettes the ATM can use, and the denominations and currency of banknotes loaded into the cassettes during replenishment.

It is possible to specify time intervals during which an ATM can operate.

For each ATM registered in the acquiring module, a list of allowed operations can be specified.

3.1.1.2 Building and Loading an ATM Configuration

For ATMs to operate, it is necessary to describe the device's sequence of actions in various conditions; i.e. to create a configuration. Usually configurations are set as files in a special format determined by the ATM vendor. Since these formats are quite complex, it is labour-intensive to edit configuration files directly. WAY4 ATM Management provides a user interface for creating configurations. A bank can easily manage all standard elements of a configuration, such as ATM screens and states, tables of financial institutions, and other parameters supported by "NDC/NDC+" protocols.

> The user interface for building ATM configurations is an optional feature and requires a separate license from the OpenWay.

A configuration file can be created for each ATM in a network. Several ATM configuration variants can be stored in a configuration file. Each ATM configuration variant in the file has its own identifier.

A multilingual interface is supported for ATM screens.

Prepared configuration files or specific parameters are loaded to an ATM or group of ATMs by sending the appropriate commands through the acquiring module's user interface.

3.1.1.3 Generating Security Keys and Loading them into an ATM

Encryption keys are created by a security officer using encryption hardware and have a fixed number of digits. Encryption keys are only stored in WAY4 and in an ATM in a state where each key is encrypted by other encryption key. A check value is used to verify an encryption key. This value is defined only by the encryption key's value and does not depend on how it was encrypted.

WAY4 ATM Management makes it possible to generate, store, and load encryption keys into an ATM (group of ATMs).

Encryption keys can be generated through the user interface. An encryption algorithm can be selected for each encryption key. WAY4 ATM Management allows classification of keys and recording the serial

number of each type of key. For each encryption key, restrictions can be specified that define the time interval and number of times they can be used.

Encryption keys can be generated automatically on encryption hardware and their values can be saved to the database.

The following parameters are available for each encryption key:

- Key encryption algorithm
- Encryption key name
- Encryption key value
- Encryption key check value
- Master key attribute
- Master key
- Threshold value for the number of possible attempts to incorrectly use a key before it is locked, and an alarm is set
- Number of attempts to incorrectly use a key
- Parent key.

For rapid deployment and launch of networks, keys can be remotely loaded to an ATM by a user command.

> Functionality for remotely loading keys is optional and requires a separate license from the OpenWay.

3.1.2 Monitoring ATM Networks

ATM networks are monitored to prevent downtime and for prompt elimination of consequences when ATM components fail.

3.1.2.1 Monitoring ATM States

WAY4 ATM Management provides a user interface to visually track the states of each ATM and its hardware in real time. The following parameters may be available for analysis:

- location
- online/offline
- ATM status and the statuses of separate components
- Operation currently being performed
- Number of cards retained
- State of cassettes
- List of errors in the last 24 hours
- List of messages and errors in the past 24 hours
- Financial cycle indicators
- Difference between the number of notes loaded into the ATM and dispensed from the ATM in the current financial cycle

- Difference between the number of notes loaded into the ATM and dispensed from the ATM in the previous financial cycle
- List of available operations
- History of messages exchanged that were requested by bank personnel and created by the ATM itself.

In manual mode (by sending commands through the management console), a user can request the following information:

- State of the ATM's hardware
- Status and parameters of the ATM's cash-in device
- Resources for each of the ATM's devices
- Software version number and identification number
- State of the device for controlling tampering and other ATM sensors.

3.1.2.2 Notification System

The WAY4 notification system makes it possible to set up automatic notifications when messages are received from the ATM that are related to changes in its status or the status of its components. For example, WAY4 can generate an e-mail or SMS message to a bank officer if a cassette for storing notes is empty or if an ATM door is open.

WAY4 provides an interface for setting up this type of notification.

> This functionality is optional and requires a separate license from the OpenWay.

3.1.2.3 Report Generation

The WAY4 ATM Management solution makes it possible to generate reports on ATM operation. Reports can be generated for each ATM, for a selected financial cycle or for a specific financial institution.

The acquiring module's user interface makes it possible to generate the following reports:

- Report on cash-in for a financial cycle (number of cash-in transactions made in the reporting period, specifying bankcard numbers, transaction amounts and the number, denominations, and currencies of notes accepted)
- Report on the state of cassettes for a financial cycle; on the number, denominations, and currencies of notes:
- Loaded into a cassette during replenishment
- Dispensed from a cassette
- Dispensed from a cassette but forgotten by cardholders.
- Rejected by the ATM when dispensing
- Available for dispensing
- Report on cash dispensing for a financial cycle (number of transactions made in the reporting period, specifying bankcard numbers, transaction amounts, and the number, denominations, and currencies of notes issued).

- Report on transactions in a selected financial cycle that were related to dispensing or accepting cash.

Report on the operation of ATM components (log of errors in the operation of ATM components for a specified cycle).

Report on changes in cassette counter statuses for a cycle, grouped by type of financial cycle.

Report on reimbursements for transactions made at ATMs for a user-defined period.

Report on current balances (number of notes in all ATMs registered in WAY4, about cash in each ATM and the amount of cash in each currency in all ATMs)

Report on the state of cassette counters for all ATMs of a selected financial institution

More information about the possible content of reports is available in the document "ATM Controller Reports".

3.1.3 ATM Network Maintenance

WAY4 ATM Management offers the following functionality for ATM network maintenance:

- Remote management of a specific ATM or a group of ATMs
- ATM replenishment
- Automatic generation of reversal messages.

3.1.3.1 ATM Remote Management

WAY4 ATM Management supports remote management in real time, both of specific ATMs and groups of ATMs.

The acquiring module's user interface makes it possible to manage the statuses of ATMs and their components.

System users can send the following service commands to a selected ATM (group of ATMs):

- Put an ATM into maintenance mode after the current transaction has been completed.
- Put an ATM into customer service mode after the current transaction has been completed.
- Take an ATM out of customer service mode after the current transaction has been completed.
- Temporarily take an ATM out of service after the current transaction has been completed.
- Immediately take an ATM out of customer service mode and roll back the current transaction.
- Terminate execution of the last command.
- Change the level of trace output.
- Immediately terminate the current operation being performed by the ATM.
- Enable/disable loading the ATMs electronic log to the host.
- Terminate the transport layer connection with the ATM.
- Get the status of the transport layer connection with the ATM.
- Synchronise the ATM's configuration data cache with the database.

3.1.3.2 ATM Replenishment

Replenishment is a set of operations to replenish monetary funds for dispensing by the ATM, to remove funds deposited by bank cardholders, reconcile the processing centre's information on the results of the ATM's operation with the information stored in the ATM.

WAY4 ATM Management supports reconciliation of funds dispensed and received and provides information about transactions made during an ATM replenishment cycle, cash dispensing and cash-in, cassette states, etc.

Support of replenishment operations also includes the following functionality:

- Printing ATM service provider receipts according to processing centre and ATM counter data.
- Automatically closing/opening a financial period in the database.
- Automatically making financial entries when service operations to load/unload ATM cassettes are performed.
- Resetting and setting note counters in the database when service operations to load/unload ATM cassettes are performed.

WAY4 ATM Management provides the ability to issue service cards (for each ATM separately or for a group of ATMs). Service cards ensure more reliable authentication of employees that maintain ATMs, based on a PIN and optionally on EMV parameters.

3.1.3.3 Automatic Generation of Reversal Messages

The WAY4 ATM Management solution allows automatic generation of messages about reversals in various situations:

- After a timeout for a response from the authorisation channel (when getting a response to an authorisation).
- If no connection with the ATM is found (when checking infrastructure statuses).
- If a message that device status has changed is found.
- If an event to change the database status is found.
- If an event to issue a command to immediately shut down the device is found.
- If a request is received from the ATM to perform another operation.
- If it is discovered that data are insufficient, missing, or corrupted in ISO field 39 (when generating a response to the bank).
- If it is not possible to generate an electronic signature (MAC).
- If a status message is received that requires a transaction to be reversed (during a status message).

3.2 Providing Bank Services

The WAY4 ATM Management solution makes it possible for banks and processing companies that use ATMs to provide a wide range of services including the following:

- Information services.
- Payment services.

- Security services.
- Services to subscribe for products and services.

In the system, an operation can be accompanied by a receipt. After making an operation, a user can order a receipt to be printed. This receipt is a financial document confirming the operation.

Information about an operation can be generated on a receipt/screen, as well as additional information (including advertising) in the client's language for:

- Various financial institutions
- Various ATMs
- Various transaction types
- Various payment types

For ATMs with currency support, transaction currency can be selected.

Transaction language can be selected when the ATMs screen forms are localized accordingly.

WAY4 ATM Management makes it possible to configure additional steps for customer service scenarios; for example, to get data from WAY4 or from external systems.

3.2.1 Information Services

WAY4 ATM Management implements the following information services:

- Balance inquiry
- Mini-statement request

When a balance inquiry is made or mini-statement requested, information can be shown on the screen or printed on a receipt, according to the client's choice.

3.2.1.1 Balance Inquiry

Getting information about a balance assumes that the bank that acquires the ATM is also the issuer of the card used for the operation ("on-us" card). The client is identified by the card inserted in the ATM. The operation is made using a PIN.

On the ATM screen, the client manually chooses the operation and the way information will be provided. The balance is shown on the ATM screen or printed on a receipt.

Limits can be set on the number of times balance information for a card account can be provided free of charge, as well as fees for exceeding limits.

> This functionality is optional for EMV/chip cards and requires a separate license from the OpenWay.

3.2.1.2 Mini-statement Request

WAY4 ATM Management allows mini-statements to be provided for "on-us" cards, including information for a certain number of most recent transactions. The client is identified by the card

inserted in the ATM. The card must be issued by the bank to which the ATM belongs. A PIN is used to perform the operation.

On the ATM screen, the client manually chooses the operation and the way information will be provided. The mini-statement is shown on the ATM screen or printed on a receipt.

Limits can be set on the number of times a mini-statement for a card account can be provided free of charge, as well as fees for exceeding limits.

> This functionality is optional for EMV/chip cards and requires a separate license from the OpenWay.

3.2.2 Payment Services

WAY4 ATM Management provides a broad selection of multi-currency operations for payments and transfers, both cash and cashless:

- Money transfers at an ATM.
- Cashless transfers at an ATM.
- Cash dispensing at an ATM.
- Cash deposit at an ATM.

3.2.2.1 Money Transfers

This functionality makes it possible to provide acquiring services for making money transfers between cards issued by the bank offering the service.

The sender makes a money transfer from their card to another (own or someone else's) bankcard. The sender initiates a transfer at an ATM, inserting the card from which money will be debited and manually enters the transfer recipient's card number, specifies the type of recipient (transfer to an own card or to another client of the bank). A PIN is entered to perform the operation.

In performing the operation, a check is made that the operation is possible, according to the transfer recipient's card number that was entered and restrictions on the transfer's amount and currency.

If the operation is allowed, the sender is shown information about the fee amount and the ability to opt out of making the transfer. If the sender agrees, the money transfer will be made and a receipt with information about the transaction will be printed at the ATM.

The transaction itself consists of two parts – financing the transfer with funds from the sender's account and payment to the recipient's account.

To finance the transfer, the sender's card is debited, and in payment, the recipient's card is credited.

The sender's card PAN is sent in the message to credit the recipient's card. The recipient's card PAN (the number entered by the sender) is sent in the message to debit the sender's card.

Limits can be sent on money transfer amounts.

- A transaction fee can be charged to the sender's or recipient's card, depending on the transfer type:
- From an own bankcard to an own bankcard.

- To the card of a particular financial institution.
- To a card with conversion (the transfer currency differs from the currency of the sender's or recipient's contract).

The functionality is available with or without a receipt.

According to the aforementioned principles, WAY4 ATM Management also supports the following transfers:

- Transfers at an ATM with the participation of an affiliate bank's cards:
- From an on-us card to an affiliate card.
- From an affiliate card to an on-us card.
- From an affiliate card to an affiliate card.
- Domestic or international transfers at an ATM from one card to another, when both cards belong to the same payment system:
- From an on-us card to a not-on-us card.
- From a not-on-us card to an on-us card.
- From a not-on-us card to a not-on-us card.
- Domestic or international transfers at an ATM from one card to another, when the cards belong to different payment systems:
- From an on-us card to a not-on-us card (cards belong to different payment systems).
- From a not-on-us card to a not-on-us card (cards belong to different payment systems).
- Transfers from a not-on-us card to an on-us card (cards belong to different payment systems).

Transfer functionality is optional and requires a separate license from the OpenWay.

3.2.2.2 Cashless Payments

WAY4 ATM Management allows the following types of payment to be made at ATMs:

- Online payment of external providers with an "on-us" bankcard.

  Online payments of external providers (mobile operators, Internet providers, and others) are made at an AM using a card registered in WAY4. Service provider data and their relation with the device contract must also be registered in the WAY4 DB. The client is identified by the card inserted in the ATM. Selection of the external service provider's service to be paid and the amount are specified by the client manually from a list shown on the ATM screen. The operation requires a PIN. After the card is verified and the ability to perform the operation has been checked, payment for the specified amount is made through the interface channel with the selected service provider. The functionality is available with or without printing a receipt.

This functionality is optional and requires a separate license from the OpenWay.

- Offline payment of external providers with an "on-us" bankcard.

  Offline payment of external providers – standard utilities: phone, gas, electricity, cable TV by transferring funds from the cardholder's account. This is not a financial transaction for the ATM and does not cause any changes in its accounts. The ATM only initialises a standing payment order registered for the cardholder. When making a utility payment, the cardholder specifies the payment type and amount, and can also specify additional requisites for the payment. The ATM sends the processing centre an authorisation request, specifying the payment type and additional requisites. The system performs standard verification of the bankcard (existence in the system, correct PIN, sufficient funds), and checks for the existence of a standing payment order for utility payments. If the check fails according to any of the criterion, the system returns the ATM a refusal to perform the operation. If the check of the required parameters is passed, this amount is held in the cardholder's account and an authorisation code is sent to the ATM. After receiving the response, the ATM prints a receipt with the payment date, numeric code of the payment and/or text explanation of the payment, authorisation code, and payment amount. This receipt can serve as an official confirmation that the utilities payment was made.

This functionality is optional and requires a separate license from the OpenWay.

- Payment of prepaid services with an "on-us" bankcard.

  To purchase prepaid services, for example a card to top up a mobile account, the appropriate data must have already been loaded into WAY4. Data are loaded from special files created by the service provider. The client is identified by the card inserted in the ATM. The client selects the operation. The client manually selects the service on the ATM screen. The operation requires a PIN. The card is verified and the ability to perform the operation is checked.The functionality is available with or without printing a receipt. The functionality is available with or without printing a receipt.

This functionality is optional and requires a separate license from the OpenWay.

3.2.2.3 Dispensing Cash

WAY4 ATM Management supports various options for dispensing cash; for example, selection of an amount from a list, entry of an arbitrary amount, selection of currency. To optimise note dispensing, WAY4 dynamically selects the combination of notes to be dispensed. System users can configure rules for dynamic selection of notes for each denomination of notes in the ATM.

The operation requires the cardholder's PIN. The client can choose the language in which the screen will display information (the ATM may make this selection automatically; for example, depending on the card number).

The screen may show static information about existing restrictions on performing the operation and on fee size.

Clients with cards issued by third parties can select the account type from a list.

The processing centre is sent the bankcard number, selected account type (for third-party cards, transaction amount and currency, and language that will be used to print the receipt for the transaction.

> For EMV/chip cards this functionality is optional and requires a separate license from the OpenWay.

3.2.2.4 Depositing Cash

WAY4 ATM Management supports cash deposit operations if the ATM has the appropriate device. During this operation, the cash-in device controls the authenticity of notes and determines their currency and denomination.

The operation is made with a PIN. The client selects the operation from those shown on the ATM screen. The screen may show static information about existing restrictions on performing the operation and on fee size.

The ATM sends an authorisation request to the processing centre, specifying the transaction type, amount and currency. The system performs standard verification of the bankcard and checks that this operation is allowed for the cardholder. If the check fails, the system returns the ATM a refusal to perform the operation. If the check of the required parameters is passed, the amount registered by the cash-in device is added to the amount available in the card account when the authorisation document is processed, and an authorisation code is sent to the ATM. The account is actually credited after the financial document for this operation is processed.

According to the aforementioned principles, WAY4 ATM Management also supports cash deposit:

- To an affiliate bank's card.
- To a not on-us MasterCard card.
- To a not on-us Visa card.

> Cash deposit functionality is optional and requires a separate license from the OpenWay.

3.2.3 Security

WAY4 ATM Management supports the following security services:

- PIN change.
- Print a list of one-time passwords.
- Print names and passwords for enrolment in Internet banking.

3.2.3.1 PIN Change

WAY4 allows cardholders to change their PINs at ATMs.

The client is identified by the card inserted in the ATM. The card that identifies the client must be issued by the bank to which this ATM belongs. The client selects the operation manually on the ATM screen. The client is prompted to enter the old PIN and a new one.

The card is verified. The ability to perform the operation is checked.

Functionality is available with and without printing a receipt.

> This functionality is optional and requires a separate license from the OpenWay.

3.2.3.2 Printing One-time Passwords

The client is identified by the card inserted in the ATM. The card that identifies the client must be issued by the bank to which this ATM belongs. The client selects the operation manually one the ATM screen. A PIN must be entered to perform the operation.

A receipt is printed with a list of one-time passwords.

> This functionality is optional and requires a separate license from the OpenWay.

3.2.3.3 Printing a name and password for enrolling in Internet banking

The client is identified by the card inserted in the ATM. The card that identifies the client must be issued by the bank to which this ATM belongs. The client selects the operation manually one the ATM screen. A PIN must be entered to perform the operation.

A receipt is printed with a name and password that can be used to enrol in Internet banking.

> This functionality is optional and requires a separate license from the OpenWay.

3.2.4 Services to Enrol for Products and Services

WAY4 ATM Management supports various services for enrolling for products and services at an ATM:

- Enrolment for SMS notifications.
- Enrolment for SMS banking services.
- Enrolment for mobile banking services.
- Enrolment for Internet banking services.
- Enrolment in loyalty programs.

> This functionality is optional and requires a separate license from the OpenWay.

3.3 Security

WAY4 ATM Management uses various functions to ensure operation of the ATM network is secure in compliance with PCI DSS.

WAY4 ATM Management supports a wide range of industry-standard EMV bankcard applications and device manufacturer EMV protocols.

Security of messages being transmitted is ensured by 3-DES PIN encryption and by a digital signature (MAC) for all messages.

WAY4 ATM Management uses the following terminal keys:

- TPK – key for encrypting the PIN block transmitted from an ATM to WAY4.
- TAK – key for the digital signature (MAC) of messages transmitted between an ATM and WAY4
- TMK – key for encrypting TPK and TAK that are transmitted on the network and loaded into an ATM's memory

WAY4 ATM Management offers a service to dynamically change 3-DES keys through online messages. Users can set rules for initiating a key change that are based on a time interval and a terminal's transaction activity. With regard to functionality this approach is an enhanced variant of the DUKPT (Derived Unique Key Per Transaction) key management scheme.

WAY4 ATM Management effectively protects data from loss/corruption and ensures high availability of the ATM network. To do so, the ability to establish backup connections between ATMs and a processing system is supported. If the main connection is lost, all messages will be automatically forwarded to the backup channel.

4. Additional Requirements and Restrictions

The current implementation of WAY4 ATM Management can be used for interaction with ATMs that support the "NDC+" and "MDS912" protocol.