

Operation Manual

Way4 Service Packages

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This document is intended for bank or processing centre employees responsible for configuring Way4. It contains information on the registration and configuration of new products.

While working with this document, it is recommended to refer to the following reference material from OpenWay documentation series:

- "Documents"
- "Way4 Dictionaries"
- "Events"
- "Issuing Module"
- "Acquiring Module"
- "Products and Contract Subtypes"
- "Way4 Global Parameters"
- "Usage Limiters"
- "Preferred Counterparties"
- "Balance Types"
- "Way4 Advanced Tariff Management"
- "Risk Monitoring"; the Way4 Real-Time Risk Management module
- "Instalment Loans in Way4"

The following notation is used in the document:

- Field names in screen forms are shown in *italics*.
- Names of screen form buttons are shown in square brackets, such as [Approve].
- Sequences for selecting items in user menus are shown using arrows, as in "Configuration Setup →Contract Types".



Warnings about potentially hazardous situations or actions.



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

1 Terms and Definitions

Way4 is used to:

- Issue and acquire payment cards of natural persons and corporate clients.
- Acquire merchants
- Account and process financial transactions, including card transactions
- Service current, deposit and loan accounts of natural persons

The key system object that allows the above functions to be performed is the contract. A contract is an accounting object that regulates the relationship between a bank and a settlement party: a bank client (including merchants) or a bank branch. Three categories of contracts are used in the system: issuing/acquiring contracts, card contracts, and device contracts.

Financial transactions are registered in the system between contracts. Contracts regulate transaction rules (allowed and forbidden transactions, transaction fees), a set of contract accounts, account interest rates, etc.

Contract properties are determined by three main parameters:

- Contract type/subtype – determines the "nature" of a contract: card contract (MasterCard or Visa, magnetic stripe or smart card), device contract (ATM, POS terminal, imprinter), or issuing/acquiring contract (a set of contract accounts and rules for working with them for a natural person, a legal person, or a bank branch)
- Service Package – contains a list of transactions, fee parameters, transaction processing rules, and usage limiters
- Accounting Scheme – determines a contract's accounts, their properties and relations between them (see Fig. 1)

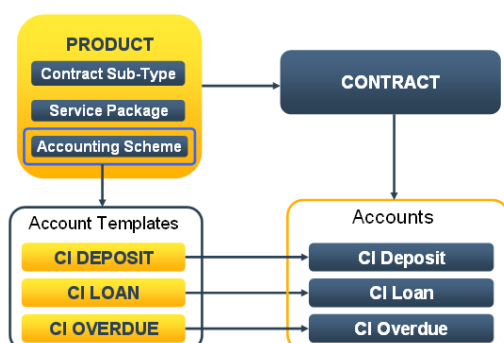


Fig. 1. Relations between system objects

Way4 allows for registering Products – sets of main contract parameter values (contract subtype, Service Package, and Accounting Scheme). Products are used to optimise the setup of contract properties.

2 Configuring Service Packages

In Way4, a Service is a rule for processing operations.

Examples of operations:

- Making a purchase using a card at a payment terminal (POS)
- Issuing cash at an ATM
- Request for a mini-statement
- Charging an annual fee for servicing a card

Main rules for processing operations:

- Permitting or forbidding an operation
- Choice of contract account type for generating movement of funds
- Rules for charging fees (rules for calculating fee amounts, fee direction, etc)

Services are combined in Service Packages selected when registering Products or contracts. By doing so, a set of rules is specified for a Product or contract according to which operations configured for this Product (contract) will be processed.

Way4 is delivered with a fixed set of Service Packages that can be configured according to the bank's current needs. When creating new Products, bank employees add the corresponding Service Packages.

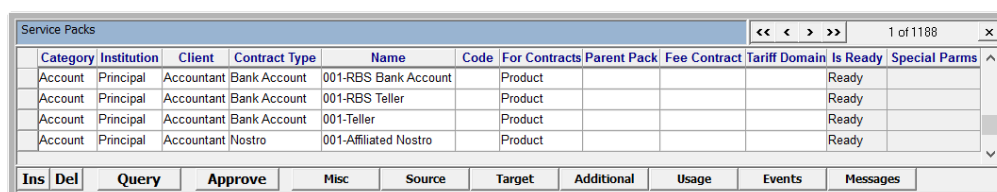
Various screen forms can be used for working with Service Packages in Way4. Screen forms provide access to the parameters of Packages and their Services.

2.1 "Service Packs" Form

To configure a new Service Package, in the user menu select the item "Full → Configuration Setup → Products → Service Packs" to open the "Service Packs" grid form (see Fig. 2) that contains all registered Service Packages.



Service Packages can also be configured in special forms (see the section "Special Forms for Working with Service Packages").



Category	Institution	Client	Contract Type	Name	Code	For Contracts	Parent Pack	Fee Contract	Tariff Domain	Is Ready	Special Params
Account	Principal	Accountant	Bank Account	001-RBS Bank Account		Product				Ready	
Account	Principal	Accountant	Bank Account	001-RBS Teller		Product				Ready	
Account	Principal	Accountant	Bank Account	001-Teller		Product				Ready	
Account	Principal	Accountant	Nostro	001-Affiliated Nostro		Product				Ready	

Fig. 2. Form for entering information about a new Service Package

A new Service Package can be entered in the database in either of two ways:

- By inserting an empty row by clicking the [Ins] button and filling in the fields.
- By copying an existing Service Package and changing the values of fields in the form according to the requirements of the new Package (see the section "Copying Service Packages").

The "Service Packs" form contains fields for setting the main parameters of Service Packages. For a description of the fields, see the section "Main Parameters of Service Packages".

The form also contains the following navigation buttons:

- The [Approve] button contains the following context menu items:
 - [Approve] – approve Service Package changes in the database. For more information, see the section "Approving Service Packages".
 - [Duplicate] – copy a Service Package (see the section "Copying Service Packages").
 - [Check] – check Service Package Parameters (see the section "Checking Service Packages").
- The [Details] button is used to access the settings of additional parameters of Service Packages (see the section "Additional Parameters of Service Packages").
- The buttons [Misc], [Source], [Target] are used to access the forms with settings of various service types (for more information, see the section "Service Configuration").
- The [Additional] button is used to configure additional Service Packages (see the section "Configuring Additional Service Packages").
- The [Usage] button is used to configure Service Package usage limiter templates (see the section "Configuring Usage Limiter Templates").
- The [Events] button is used to configure Events to automatically activate/deactivate additional Service Packages (see the section "Configuring Events").
- The [Group Msg] button is used to configure client message templates (see the section "Configuring Message Templates (Group Msg)").
- The [Preferred] button is used to configure preferred counterparties (see the section "Configuring Preferred Counterparties (Preferred)").

2.1.1 Main Parameters of Service Packages

2.1.1.1 Category

The *Category* field determines the contract category (Card, Account, Device) for which the Service Package will be used.

2.1.1.2 Institution

The *Institution* field specifies the financial institution whose contract can use the Service Package.

2.1.1.3 Client

The *Client* field determines the client type; where "Private" is a natural person, "Commercial" is a legal person, and "Accountant" is the bank.

2.1.1.4 Contract Type

The *Contract Type* field shows the type of contract for which the given Service Package is used.

2.1.1.5 Name

The *Name* field specifies the name of the Service Package which will be used for registering contracts. The following name format is recommended: "NNN-name", where NNN is the last three digits of the number of the financial institution indicated in the *Branch Code* field of the "Financial Institutions form (Full → Configuration Setup → Main Tables → Financial Institutions).

2.1.1.6 Code

The *Code* field contains a special code used when importing files from external sources to associate the imported data with a specific Service Package.

2.1.1.7 For Contracts

The *For Contracts* field is used to separate all Service Packages into the following groups:

- "Product" – Service Packages used for creating Products and registering contracts (when the "Product" value is selected in this field).
- "Additional" – additional Service Packages to be linked to main Service Packages to expand Product or contract functionality (for more information, see the section "Configuring Additional Service Packages").

Can be used to group Services with the ATTACHMENT tag. In this case, the Package is used to attach/detach an additional fee to all the Package's main Services. The tag is described in the section "Tags used when configuring Service Packages and Services" of the document "Setup Tags".

- "Risk Rules" – special Service Packages used for risk control. These Service Packages are a variation on additional Service Packages and are also used in

Product configuration and contract registration (see the Risk Monitoring User Manual; the Way4 Real-Time Risk Management module.)

This field is used to avoid mistakes where an Additional Service Package is assigned to a Product or contract instead of a regular Service Package.

2.1.1.8 Parent Pack

To make it easier to synchronise parameter changes in Service Packages belonging to different financial institutions, it is possible to make changes to one Service Package with the subsequent automatic change in tariffs of the other Service Packages linked to it. The *Parent Pack* field is used to link Service Packages with the main Service Package determining their tariffs.

After approval in the database of changes to the "parent" Service Package, this information is automatically reflected in all other Service Packages that refer to the given Package in the *Parent Pack* field.

When parameters of the main Service Package are inherited, all settings of the "parent" package are copied, including additional Service Packages, etc. For Events, message templates are also inherited from the Events of the "parent" package.



A subordinate Service Package cannot have the value "Ready" in the *Is Ready* field if the Service Package referred to in the *Parent Pack* field has the status "Not Ready".

The *Parent Pack* field of a financial institution's Service Package is filled in from a drop-down list containing the Service Packages registered in the system which are used for the same type of contract (*Contract Type* field) as the given Service Package.



Parent Pack and *Base Pack* configurations are not intended for use in one hierarchy of Service Packages (for example, in the *Base Pack* field of Service Package 1, Service Package 2 is specified, and in the *Parent* field of Service Package 2, Service Package 3 is specified). Such configurations may cause system failure.

2.1.1.9 Fee Contract

The *Fee Contract* field contains the contract whose accounts will be used for the transfer of fees.

2.1.1.10 Tariff Domain

The *Tariff Domain* field for each Service Package may contain one of the tariff domains registered in the system. If the bank's distribution package does not include the Way4 Tariffs module, the field is empty.



The Way4 Tariffs module is not included in the basic Way4 configuration and is supplied under a separate agreement with the Way4 system vendor.

2.1.1.11 Is Ready

The *Is Ready* field shows whether changes to the given Service Package were approved.



If an Additional Service Package is configured for the given Service Package, after approval of changes in the Additional Service Package, the main Service Package and all its subordinate Service Packages will have the status "Not Ready".

When changes are made to a Service Package for which contracts were earlier registered in the database, contract properties will be changed according to the value of the global parameter APPROVE_IMMEDIATE (see the Way4 Global Parameters User Manual).

2.1.2 Additional Parameters of Service Packages

To access additional information about a Service Package, use the form (see Fig. 3) opened by clicking the [Details] button in the Service Packages grid form.

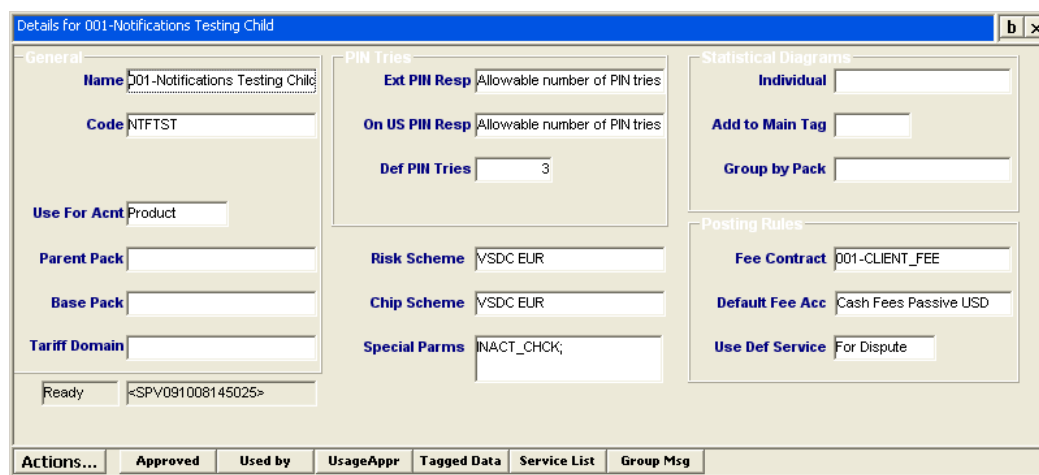


Fig. 3. Form with additional information about a Service Package

This form contains fields which do not appear in higher-ranking Service Package forms (see the description in the sections below).

The form with additional information about a Service Package contains the following navigation buttons:

- The [Actions] button contains the following context menu items:
 - [Check] – checks the Service Package parameters (see the section "Checking Service Packages").

- [Duplicate] – copies the Service Package (see the section "Copying Service Packages").
- [Save Tagged Data] – saves tags entered in the *Special Params* field (see the section "Entering and Editing Tags").
- [ServiceAppr] – opens the grid form with the current values of Service parameters (see the section "Current Service Parameters (Approved Services)").
- [Approved] – opens a grid form with the current values of Service Package parameters.
- [Used by] – opens the grid form specifying Service Packages to which the given Service Package is linked, if it is an additional Service Package (see the section "Configuring Additional Service Packages").
- The [Tagged Data] button is used to optimise work with the *Special Params* field. Clicking this button opens a grid form for entering and modifying tags in the *Special Params* field (see the section "Entering and Editing Tags").
- The [UsageAppr] button is used to access the form containing records corresponding to all changes ever approved to all usage limiter template parameters of the given Service Package.
- The [Service List] button is used for batch configuration of tariffs for Service Packages. Tariff types can be selected in the form opened by clicking this button if the delivery package includes the Way4 Tariffs module. The Way4 Tariffs module is not included in the basic Way4 configuration and is supplied under a separate agreement with the Way4 system vendor.

2.1.2.1 Use for Acnt

The *Use for Acnt* field is used to separate all Service Packages into Service Packages used to create Products and register contracts (the value "Product"), additional Service Packages (the value "Additional") and Service Packages used for risk control (the value "Risk Rules") (see the section "For Contracts").

2.1.2.2 Base Pack

This field remains for backward compatibility.

Additional Service Packages functionality (see the section "Configuring Additional Service Packages") should be used instead of this field.

2.1.2.3 PIN Tries

This group of fields is used to configure the rules for working with contracts when an incorrect PIN code is entered:

- *On US PIN Resp* – this field contains the value of the response code returned during authorisations of "on-us" cards at "on-us" devices when the maximum

allowed number of PIN attempts is exceeded. The maximum allowed number of such attempts is set in the *Def PIN Tries* field.

- *Ext PIN Resp* – this field contains the value of the response code returned during authorizations of "on-us" cards at "foreign" devices when the maximum allowed number of PIN attempts is exceeded. The maximum allowed number of such attempts is set in the *Def PIN Tries* field.
- *Def PIN Tries* – the value of the maximum allowed number of PIN attempts. When registering a new contract, this value is used as the default value. The counter for unsuccessful attempts resets to 0 when the correct PIN code is entered if the maximum number of attempts was not exceeded.

2.1.2.4 Statistical Diagrams

This group of fields is used to set the rules for gathering statistical information:

- *Individual* – this field contains a drop-down list of registered Statistics Schemes to specify the Scheme that will be used for gathering individual statistics for contracts using the given Service Package.
- *Add to Main Tag* – a flag that determines (when the value is "Yes") that statistics will be gathered for contracts ranking above the contracts using the given Service Package.
- *Group by Pack* – this field contains a drop-down list of registered Statistics Schemes to specify the Scheme that will be used for gathering consolidated statistics for all contracts using the given Service Package.

2.1.2.5 Risk Scheme

The *Risk Scheme* field indicates the Risk Scheme for magnetic stripe cards. This value will be assigned by default to contracts using the given Service Package (see the "Risk Management Reports Setup" document).

2.1.2.6 Chip Scheme

The *Chip Scheme* field specifies the smart card parameter scheme that will be assigned by default to contracts using the given Service Package. This parameter can be redefined on the contract subtype level (in the *Chip Scheme* field).

2.1.2.7 Special Parm

The *Special Parm* field is used to define special parameters of Service Packages as tags. For more details, see the section "Tags used when configuring Service Packages and Services" of the document "Setup Tags".

2.1.2.8 Default Fee Acc

The *Default Fee Acc* field is used to specify the default account for transaction fees described in the Service Package. The value of this field is reflected in Services included in this Package.

2.1.2.9 Use Def Service

The *Use Def Service* field specifies how default accounts are used. These account types are set when configuring transaction subtypes (see the section "Transaction Subtypes" in the Documents Administrator Manual).

The value of the *Use Def Service* field determines when to use this default value to process documents for which no Service was found, and consequently, no posting account is determined:

- "None" – a document for which no Service was found is rejected.
- "For All" – the default account is used for all documents for which no Service was found.



Note that the *Use Def Service* parameter with the "For All" value can only be used for bank contract Service Packages. It is not recommended to use the *Use Def Service* parameter with the "For All" value for card contracts. For example, if this value is specified for a card contract Package, funds in the contract will be blocked regardless of the *Is Am Av* field value ("Yes" or "No") for the default account. I.e. regardless of the "No" value in the *Is Am Av* field for the "default" account when the Service is absent, funds will be blocked in the contract and shown in the Total Blocked field of the contract's "Balance for..." form.

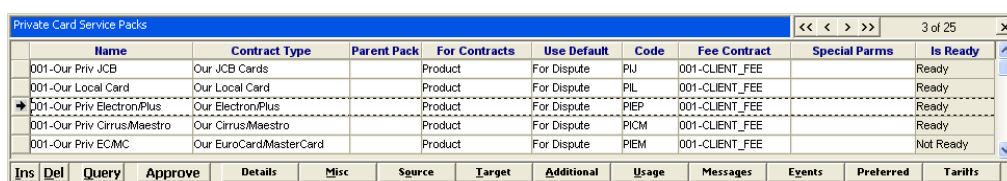
- For Dispute – the default account is only used for dispute documents for which no Service was found.

2.2 Special Forms for Working with Service Packages

In most cases, special forms are used with a list of Service Packages selected by financial institution and client category:

- To enter and edit information on Service Packages for issuing contracts of private clients, use the following forms from the "Full → Configuration Setup → Products → Issuing Private Products" menu group:
 - For card contracts, use the form "Private Card Service Packs" (see Fig. 4).
 - For account contracts, use the form "Private Account Service Packs" from the same group.
- To enter and edit information on Service Packages for issuing corporate contracts, use the following forms from the "Full → Configuration Setup → Products → Issuing Corporate Products" menu group:
 - For card contracts, use the form "Corporate Card Service Packs".
 - For account contracts use the form "Corporate Account Service Packs".

- To enter and edit information on Service Packages for acquiring contracts, use the following forms from the "Full → Configuration Setup → Products → Acquiring Products" menu group:
 - For device contracts, use the form "Device Service Packs".
 - For corporate account contracts, use the form "Corporate Account Service Packs".
- To enter and edit information on Service Packages for bank contracts, use the form "Full → Configuration Setup → Accounting Setup → Bank Service Packs".



Name	Contract Type	Parent Pack	For Contracts	Use Default	Code	Fee Contract	Special Params	Is Ready
001-Our Priv JCB	Our JCB Cards		Product	For Dispute	PIJ	001-CLIENT_FEE		Ready
001-Our Local Card	Our Local Card		Product	For Dispute	PIL	001-CLIENT_FEE		Ready
001-Our Priv ElectronPlus	Our ElectronPlus		Product	For Dispute	PIEP	001-CLIENT_FEE		Ready
001-Our Priv CirrusMaestro	Our CirrusMaestro		Product	For Dispute	PICM	001-CLIENT_FEE		Ready
001-Our Priv ECMC	Our EuroCardMasterCard		Product	For Dispute	PIEM	001-CLIENT_FEE		Not Ready

Fig. 4. Form for entering and editing information on Service Packages for private card contracts

Note that fields and buttons in the abovementioned forms may vary.



The [Tariffs] button (similar to the [Service List] button in the additional Package parameters form) is used for batch configuration of Service Package tariffs. Tariff types can be selected in the form opened by clicking this button if the delivery package includes the Way4 Tariffs module. The Way4 Tariffs module is not included in the basic Way4 configuration and is supplied under a separate agreement with the Way4 system vendor.

2.3 Service Configuration

2.3.1 Service Types

Services fall into two main groups; these are transaction Services (Target Services and Source Services) and non-transaction Services (Miscellaneous services).

2.3.1.1 Source Services

The [Source] button in the "Service Packs" form (see Fig. 2 in the section ""Service Packs" Form") is used to open the "Source for <name of Service Package>" form (see Fig. 5). This form contains information on Services used for operations where the contract using the given Service Package will be the source of transaction information. These Services are usually described in Service Packages for devices.

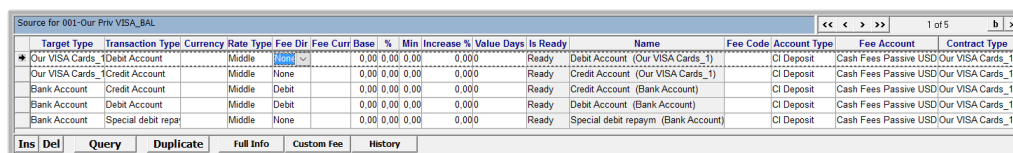


Fig. 5. Form for viewing and entering data on source Services

This form contains the following fields, which are not accessible in the form with detailed information about a Service.

- The *Target Type* field indicates the contract type of the counterparty who is the target of transaction data.
- The *Transaction Type* field specifies the transaction type.

The form contains the following control buttons:

- [Duplicate] – used to copy a Service in a Service Package (see the section "Copying Service Packages").
- [Full Info] – used to access the form with full information about a Service (see the section "Full Information about a Service").
- [Custom Fee] – used to configure a custom fee calculated as a percentage of the transaction amount without the main fee (see the section "Custom Fee").
- [History] – opens a form with the current values of this Service's parameters (see the section "Current Service Parameters (Approved Services)").

2.3.1.2 Target Services

Clicking the [Target] button in the "Service Packs" form (see Fig. 2 in the section ""Service Packs" Form") opens the "Target for <name of Service Package>" (see Fig. 6). This form contains data on Services determining the permissibility and conditions of operations in which the contract using the given Service Package will be the target of transaction information. Usually, these Services are used for card contracts.

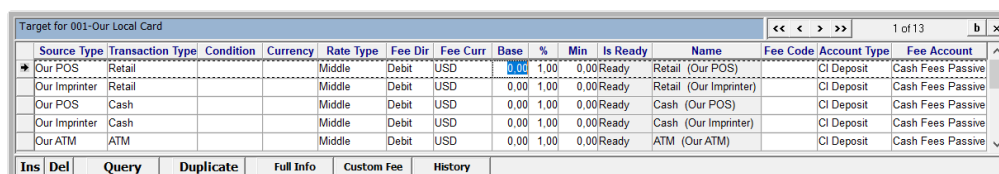


Fig. 6. Form for viewing and entering data on target Services

The form contains the following fields, which are not accessible in the form with detailed information about a Service:

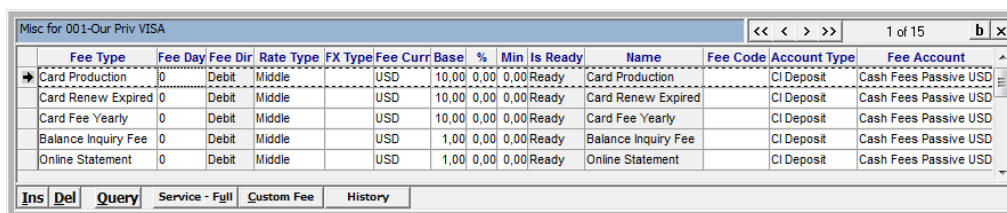
- The *Source Type* field indicates the contract type of the counterparty who is the source of transaction data.
- The *Transaction Type* field specifies the transaction type.

The form contains the following control buttons:

- [Duplicate] – used to copy a Service in a Service Package (see the section "Copying Service Packages").
- [Full Info] – used to access the form with full information about a Service (see the section "Full Information about a Service").
- [Custom Fee] – used to configure a custom fee calculated as a percentage of the transaction amount without the main fee (see the section "Custom Fee").
- [History] – opens a form with the current values of this Service's parameters (see the section "Current Service Parameters (Approved Services)").

2.3.1.3 Miscellaneous Services

Clicking the [Misc] button in the "Service Packs" form (see Fig. 2 in the section ""Service Packs" Form") opens the "Misc for <name of Service> (see Fig. 7). This form contains data on Services that describe fees charged when certain events occur, for example, card issuing, mini-statement request, etc.



Fee Type	Fee Day	Fee Dir	Rate Type	FX Type	Fee Curr	Base	%	Min	Is Ready	Name	Fee Code	Account Type	Fee Account
Card Production	0	Debit	Middle		USD	10,00	0,00	0,00	Ready	Card Production		CI Deposit	Cash Fees Passive USD
Card Renew Expired	0	Debit	Middle		USD	10,00	0,00	0,00	Ready	Card Renew Expired		CI Deposit	Cash Fees Passive USD
Card Fee Yearly	0	Debit	Middle		USD	10,00	0,00	0,00	Ready	Card Fee Yearly		CI Deposit	Cash Fees Passive USD
Balance Inquiry Fee	0	Debit	Middle		USD	1,00	0,00	0,00	Ready	Balance Inquiry Fee		CI Deposit	Cash Fees Passive USD
Online Statement	0	Debit	Middle		USD	1,00	0,00	0,00	Ready	Online Statement		CI Deposit	Cash Fees Passive USD

At the bottom of the form, there are buttons: **Ins**, **Del**, **Query**, **Service - Full**, **Custom Fee**, and **History**.

Fig. 7. Form for viewing and entering information about miscellaneous Services

This form contains the *Fee Type* field, which is not accessible in the form with detailed information about a Service. In this field, the fee type is selected from a drop-down list of non-transaction fee types available for the contract category set for the given Service Package (the list is set in the "Full → Configuration Setup → Transaction Types → Fee Types" form).

The form contains the following control buttons:

- [Service - Full] – used to access the form with full information about a Service (see the section "Full Information about a Service").
- [Custom Fee] – used to configure a custom fee calculated as a percentage of the transaction amount without the main fee (see the section "Custom Fee").
- [History] – opens a form with the current values of this Service's parameters (see the section "Current Service Parameters (Approved Services)").

2.3.2 Full Information about a Service

By clicking on the [Full Info] button in the forms "Source" (see Fig. 5 in the section "Source Services") and "Target" (see Fig. 6 in the section "Target Services"), and by clicking the [Service-Full] button in the "Misc" form (see Fig. 7 in the section "Miscellaneous Services"), users can access the form containing full information on

each individual Service (see Fig. 8). This form can be used for the complete configuration of a Service.

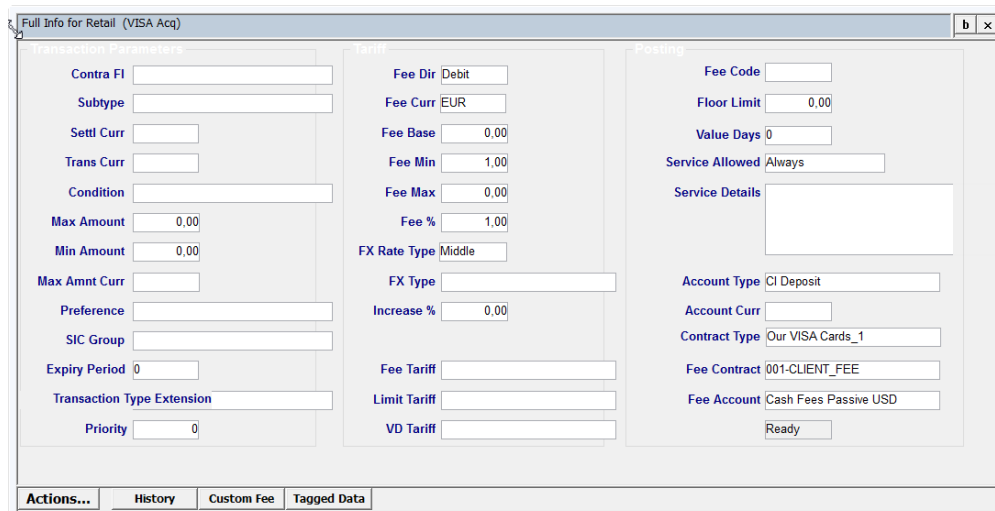


Fig. 8. Form for viewing and entering complete Service information

The *Service Allowed* field of this form can have one of the following values:

- "Always" – the Service allows transactions to be made.
- "Offline on Issuing" – the Service prohibits authorizations, but a financial document registered in Way4 without authorization is processed according to the Service's rules (like when the value is "Always").
- "Offline on Acquiring" – when an online authorization request to make a transaction on this Service is received from a device, a financial document for further processing the transaction offline is generated in the system (this Service is like the "Credit" operation in the MasterCard payment system). The authorization process is terminated.
- "Never" – the Service prohibits authorizations and processing of financial documents.
- *Priority* is a numeric indicator of priority, used when searching for a Service. When Way4 searches for a Service and several Services meeting search conditions are found, the Service with the higher value in this field will be selected (a Service with a higher priority will be selected regardless of its details – regardless of the number of criteria set in it).



If there are two appropriate Services with equal priorities, the Service that has more criteria will be selected.

- The *Is Ready* field shows that the changes made to the given Service were approved.

The remaining fields of this form are divided into three groups:

- "Transaction Parameters"
- "Tariff"
- "Posting"

The form also contains the following buttons:

- The [Actions] button contains the following context menu items:
 - [Save Tags] – saves tags entered in the *Service Details* field (see the section "Entering and Editing Tags").
 - [Duplicate] – copies a Service (see the section "Copying Service Packages").
- [History] – opens the form with the current values of the given Service's parameters (see the section "Current Service Parameters (Approved Services)").
- [Custom Fee] – used to set additional fees (see the section "Custom Fee").
- The [Tagged Data] button is used to optimise work with the *Service Details* field. Clicking this button opens the grid form for entering and editing tags in the *Service Details* field (see the section "Entering and Editing Tags")

2.3.2.1 Transaction Parameters

This group of fields determines transaction parameters:

- The *Contra FI* field shows the counterparty's financial institution.
- The *Subtype* field determines the counterparty's contract subtype.
- The *Settl Currency* field shows the settlement currency.
- The *Trans Curr* field shows the transaction currency.



A Service's *Settl Curr* and *Trans Curr* field values are compared with the values in the corresponding fields of the document (*Settlement Currency* and *Transaction Currency*). If the value of the USE_TRANS_AMOUNT tag is "Y" (see the description of the USE_TRANS_AMOUNT tag in the section "Tags used when configuring Service Packages and Services" of the document "Setup Tags"), when searching for a Service, both fields of the Service (*Settl Curr* and *Trans Curr*) are compared with the document's *Transaction Currency* field.

- The *Condition* field shows the conditions for making the transaction; the "Transaction Conditions" system dictionary contains a list of all conditions registered in the system.



When configuring Services, only group conditions for transactions should be used (these records have the name "<name> (Group)" in the

Condition field's list). Otherwise, it's possible that the wrong Service will be selected and that the transaction will be rejected or processed incorrectly.

- The *Max Amount* field defines the maximum allowed amount of the transaction.
- The *Min Amount* field defines the minimum allowed amount of the transaction.



A Service's *Min Amount* field is analysed to select the most suitable Service from several appropriate Services as follows:

- If the *Min Amount* field is filled in, the Service is considered to be more suitable than a Service with an empty *Min Amount* field.
 - If the *Min Amount* field is filled in for several appropriate Services, the Service with the largest value in the *Min Amount* field is considered to be the most suitable.
 - The priority of the *Min Amount* field is lower than that of the *Max Amount* field. If there are two suitable Services, one of which has only the *Min Amount* field filled in, and the other with only *Max Amount*, the Service with the *Max Amount* field filled in will be selected.
 - If several Services have both fields filled in, one of them will be selected depending on specific numbers, but we don't specify the exact method for doing so. If this setup is required, these Services must be given different priorities.
- The *Max Amount Curr* indicates the currency in which limitations are set on the transaction amount.



The *Max Amount Curr* field is filled in with data from the *Settl Curr* field automatically when approving a Service Package if even one of the following fields is filled in: *Floor Limit*, *Min Amount*, *Max Amount*. If the *Settl Curr* field is not filled in, an error message will be displayed.

- The number of day is set in the *Expiry Period* field. The field is used as follows: according to the transaction parameters (including the value in the *Condition* field), the system determines the Service for processing a transaction. Then the system compares the date of the transaction with the date the corresponding document was processed. If these dates differ by a value larger than that indicated in the *Expiry Period* field of the Service found, the system searches for another Service. A new Service is determined according to the value of the *Late Conditions* field of the "Transaction Conditions" dictionary.

For more information about working with this dictionary, see the section "Transaction Conditions" in the Documents Administrator Manual.

Note that the Service will not be replaced if the *Expiry Period* field value is "0".

The value of this field affects document processing for transaction types with the parameter *Category* = "When Available": unblocking amounts and document posting are only possible during the interval determined by the value of the *Expiry Period* parameter from the document creation date. If this interval is exceeded, the document will be declined and a corresponding message will be generated. For more information on processing this category of financial documents, see the section "Posting "When Available" Type Documents" in the Documents Administrator Manual.

- The *Preference* field shows the counterparty category (see the Preferred Counterparties Administrator Manual).
- *SIC Group* – this parameter allows the additional specification of a Service for processing an operation depending on the merchant SIC group (see the section "'SIC Group' Dictionary" in the Way4 Dictionaries Administrator Manual). The system can search for Services by the value of this field only in Service Packages for card contracts (a contract's *Contract Category* is set to "Card").
- *Transaction Type Extension* – this parameter allows the additional determination of a Service for processing an operation taking into account the correspondence of the value of the *Transaction Type Extension* field and the value of the document's *source_fee_code* field.

This field is filled in from a list configured in the "Transaction Type Extensions" form (Full → Configuration Setup → Transaction Types → Transaction Type Extensions). See the section "Transaction Type Extensions" of the document "Documents".

2.3.2.2 Tariff

This group of fields describes transaction fees:

- The *Fee Dir* field (mandatory) determines the fee direction (from a drop-down list), where the value "Debit" means that the client is charged a fee for a transaction; "Credit", the client is paid a fee for a transaction and "None", no fee is calculated.
- The *Fee Curr* field shows the currency in which the fee will be calculated.



The *Fee Curr* field is filled in with data from the *Settl Curr* field automatically if even one of the following fields is filled

in: *Fee Base*, *Fee Min*, *Fee Max*. If the *Settl Curr* field is not filled in, an error message will be displayed.

- The *Fee Base* field specifies an additional mandatory fee and does not depend on the fee rate.



The system does not support processing negative values of the *Fee Base*, *Fee Min* and *Fee Max* fields. Positive values must be specified in these fields.

- The *Fee Min* field shows the minimum amount of the fee that will be charged regardless of the transaction amount.
- The *Fee Max* field indicates the maximum allowed amount of the fee that can be charged on a transaction.
- The *Fee %* field contains the fee rate. Note that the system can calculate the fee rate using one of two algorithms:
 - The fee is calculated from the entire transaction amount. In this case, a positive value is set in the field.

If the field value is positive, the fee is calculated according to the following equation:

$$Fee = \min(Fee_{max}, \max(Fee_{min}, \frac{Amount_{settl} \cdot Fee_{\%}}{100} + Fee_{base})) \Big|_{Fee_{\%} \geq 0}$$

For instance, when a transaction is performed, the client's account is debited for the transaction amount and the fee calculated according to this formula.

- The fee is calculated from the transaction amount including the additional fee. In this case, a negative value is set in the field.

If the field value is negative, the fee is calculated according to the following equation:

$$Fee = \min \left(Fee_{max}, \max \left(Fee_{min}, \frac{-Fee_{\%} \cdot (Amount_{settl} + Fee_{base} \cdot direction_{fee})}{100 - Fee_{\%}} + Fee_{base} \right) \right) \Big|_{Fee_{\%} < 0}$$

In this formula, the *direction_{fee}* coefficient depends on the value in the *Fee Dir* field. If the field value is "Debit", the coefficient is "-1"; if the value is "Credit", the coefficient is "1", and if "None", it is zero.

An example of how a fee is calculated from the transaction amount including the fee amount:

A bank branch, when servicing a card issued by another bank branch, debits the transaction amount and the transaction fee for that type of operation. The bank policy, however, specifies that the fee must be transferred to the account of the bank's head office. Since the head office receives information indicating the transaction amount including the fee, it is necessary to calculate the fee itself. A negative value in the *Fee %* field allows this process to be carried out automatically.

- The *FX Rate Type* is a mandatory field that shows the foreign exchange rate. The values "Middle" and "Buy/Sell" are possible.



The value of the *FX Rate Type* field is applied to a transaction with a Service, and to the fee that is configured directly in the parameters of the main Service and set as a percentage rate (*Fee %*). By default, *Fee Base*, *Fee Min*, *Fee Max* fees are calculated at the "Middle" rate. To use the rate from the *Fx Rate Type* field to calculate a *Fee Base*, *Fee Min*, *Fee Max* fee that is configured in the main Service, the global parameter `BASE_AMOUNT_FX_RATE_TYPE` is used or a tag with the same name in the main Service.

A custom fee that is set as a percentage rate (*Fee %*) is calculated at the rate specified in the *FX Rate Type* field in the parameters of the custom fee's Service. For *Fee Base*, *Fee Min*, *Fee Max* fees that are configured for a custom fee's Service, the FX type is set using the global parameter `BASE_AMOUNT_FX_RATE_TYPE` or a tag with the same name in the main Service.

- The *FX Type* field shows the type of foreign exchange (see the section "FX Types" in the Currency Conversion Administrator Manual).
- The *Increase %* field shows the percentage by which authorization and clearing amounts sent to the issuer are increase; this parameter is usually used to surcharge the transaction amount by an amount which is charged to the cardholder and counted as revenue for the acquiring bank.

The field is only analyzed in the Source Service (the acquirer analyzes the field when posting a transaction on the acquirer's side).

- The *Fee Tariff* field contains a drop-down list of registered tariff types with the "Service" role.
- The *Limit Tariff* field contains a drop-down list of registered tariff types with the "Service Limit" role.
- The *VD Tariff* field contains a drop-down list of registered tariffs with the "Service Value Days" role.



If the bank's distribution package does not include the Way4 Tariffs module, the *Fee Tariff*, *Limit Tariff*, and *VD Tariff* fields are empty. The Way4 Tariffs module is not included in the basic Way4 configuration and is supplied under a separate agreement with the Way4 system vendor.

2.3.2.3 Posting

This group of fields is used to create document posting rules:

- The *Fee Code* field is a code set for Nostro contract Services used to interact with payment systems (Visa, MasterCard, etc.). The value of this field is determined by payment system rules. This code defines what algorithm is used by payment systems to calculate fees. The value is selected from a list (handbook). The handbook of codes is generated on the basis of codes already entered in Way4 using the menu item "Full → Configuration Setup → Products → Generate Service Fee Codes".
- The *Floor Limit* field is a numeric value which determines the maximum allowed amount of a transaction that can be made without authorization.
- The *Value Days* field can be used in two ways:
 - If the *Value Days* field is filled in for a Service (main Service or for a Custom Fee), this value will determine the due normalisation period for the corresponding account (the period can be set using a tariff with the "Service Value Days" role). A non-empty value in the *Value Days* field (or a non-empty value of the tariff with the "Service Value Days" role) has a higher priority than the *Due Period* field in the account template (or the tariff with the "Ageing" role set in the template). However, specifics for calculating the period are determined in the account template (for example, specifying the normalisation date as a fixed day of the month, quarter or billing cycle).

For example, for Source Services used to post transactions to accounts with the "Value Days Due" due normalization type, this field specifies the number of banking (business) days after which the acquirer reimburses the merchant. I.e. Way4 uses a business calendar to differentiate between business days and weekends/holidays (see the "Business Calendar" section in the Way4 Dictionaries Administrator Manual).

- For Miscellaneous Services, this field determines the time shift for recurring payments (fees).

By default, for recurring fees (daily, weekly, monthly, quarterly, yearly Misc fees), a fee charged starting from the contract's opening date (*date_open* field in the contract form). The *Value Days* and *Charge Event* fields of the main Service (or the *Fee Day* field for a custom fee) allow a shift from the contract's opening date to be set for charging recurring fees. The

BASE_DATE tag in a transaction subtype makes it possible to redefine the date on which charging a yearly, monthly or quarterly fee will begin to be charged. When the BASE_DATE tag is used, a shift with the *Value Days/ Fee Day* parameters in a Service or tariff only works for yearly fees. The *Value Days/Fee Day* parameter set in a Service or tariff doesn't affect the date for beginning to charge a monthly or quarterly fee.

A fee (yearly, monthly, quarterly) can be postponed or conditions for charging a fee can be set using IF_DATE group tags (see the section "Control Tags" of the document "Setup Tags").

Note that if a Misc Service is used to post a transaction to an account with a certain due normalization type (*Due Type* field of the account template), the *Value Days* field will affect calculation of the account normalization date. In this case, configure a custom fee for the main Misc Service. Note that:

- ◆ The main Misc service determines the date for charging the fee (by filling in the *Value Days* and *Charge Event* fields, see the description below).
- ◆ Fee parameters (amount, account to which the fee will be transferred, etc.) are configured in the custom fee. In doing so:
 - The *Value Days* field is not filled in for the custom fee.
 - To avoid inheriting the *Value Days* field value from the main Service, the OWN_VALUE_DAYS; tag should be set in the custom fee.

In this case, account normalization will be performed according to rules set in the account template.

- The type of shift depends on the value of the "Charge Event" parameter of the fee type (see "Full → Configuration Setup → Transaction Types → Fee Types", the *Charge Event* field). The *Value Days* field is used with the following values of the "Charge Event" parameter:
 - ◆ "Weekly". If the frequency of the Event when a fee is charged is specified in the "Fee Types" form (Full → Configuration Setup → Transaction Types → Fee Types) as "Weekly" the value of the *Value Days* field is shown as a number between 1 and 7, where 1 is Monday.
 - ◆ "Monthly". If the value of the "Charge Event" parameter is "Monthly", the value in the *Value Days* field can be either positive or negative.

Fee day ≥ 0 – the shift is calculated ahead for the given number of days from the first day of the current month.

Fee day < 0 – the shift is calculated back for the given number of days from the first day of the next month.


- ◆ "Billing Date". If the value of the "Charge Event" parameter is "Billing Date" the value in the *Value Days* field can be either positive or negative.

Fee day ≥ 0 – the shift is calculated ahead for the given number of days from the first day of the current billing cycle.

Fee day < 0 – the shift is calculated back for the given number of days from the first day of the next billing cycle.
 - ◆ "Yearly". When the value of the "Charge Event" parameter is "Yearly" the value of the *Value Days* field determines the shift in months from the date the contract was opened and can be from "-12" to "12" inclusively. For example:

Fee day = "0". The shift of the first payment is one calendar year from the opening date of the contract. Subsequent payments are made annually on that date. If the date falls on a non-working day, payment is made on the first banking day following this date.

Fee day = "-12". The first payment is made, without a shift, on the date the contract is opened. Subsequent payments are made annually on that date. If the payment date falls on a non-working day, payment is made on the first banking day following this date.

Fee day = "6". The shift of the first payment is 1.5 calendar years from the opening date of the contract. Subsequent payments are made annually on that date. If the payment date falls on a non-working day, payment is made on the first banking day following this date.
 - *Service Details* – this field is used for additional configuration of Services using tags (see the section "Tags used when configuring Service Packages and Services" of the document "Setup Tags").
- 

If two Services in a Package differ only by the value of the *Service Details* field (for example, in one Service the field is filled in with a tagged parameter and in the other Service the field is not filled in), these Services are considered identical and the Service Package will not be approved. These Services should be given different priorities.
- The *Account Type* field specifies the account of the contract on which transactions will be made and to which fees will be charged.
 - The *Account Curr* field shows the currency of the account specified in the *Account Type* field.
 - The *Contract Type* field shows the contract type. This field is read only.
 - The *The Fee Contract* field shows the contract whose accounts will be used for transferring fees.

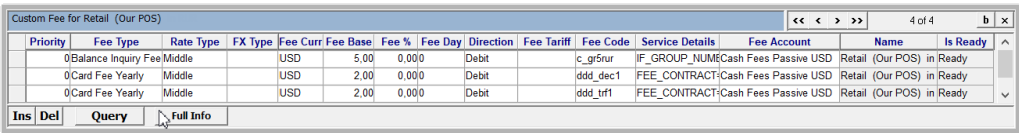
- The *Fee Account* field shows the account of the contract specified in the *Fee Contract* field which will be used to pay fees.

Changes to Services are approved by clicking the [Approve] button in the "Service Packs" form.

2.3.3 Custom Fee

Sometimes a situation arises when in addition to the specified fee, an additional fee is also charged, which is calculated as a percentage of the amount of an operation without taking into account the main fee. An example of such a situation is when a cardholder withdraws cash in a currency different from the account currency. In this case, the cardholder's account is debited for the transaction amount (amount of cash withdrawn), the transaction fee, plus a foreign exchange fee.

The system allows this type of fee to be processed automatically. To do so, the fee must be described in the "Custom Fee" form (see Fig. 9), opened by clicking the button of the same name in the forms "Source" (see Fig. 5 in the section "Source Services") and "Target" (see Fig. 6 in the section "Target Services").



Priority	Fee Type	Rate Type	FX Type	Fee Curr	Fee Base	Fee %	Fee Day	Direction	Fee Tariff	Fee Code	Service Details	Fee Account	Name	Is Ready
0	Balance Inquiry Fee	Middle		USD	5.00	0.000		Debit		c_g5sur	IF_GROUP_NUMECash Fees Passive USD	Retail (Our POS)	in Ready	
0	Card Fee Yearly	Middle		USD	2.00	0.000		Debit		ddd_dec1	FEE_CONTRACT:Cash Fees Passive USD	Retail (Our POS)	in Ready	
0	Card Fee Yearly	Middle		USD	2.00	0.000		Debit		ddd_trf1	FEE_CONTRACT:Cash Fees Passive USD	Retail (Our POS)	in Ready	

Fig. 9. Form for entering and editing custom fee information

This form contains the following fields:

- *Priority* – determines the procedure for charging custom fees set up in the "Custom Fee for..." form. The priority value is a number (0,1, etc.), and the larger the value, the higher the priority. I.e. fees are processed in descending order of priority. Additional fees with a zero priority are processed last in random order.
- *Fee Type* – selection of the fee type from a drop-down list of non-transaction fee types available for the contract category specified for the given Service Package (the list is set in the "Full → Configuration Setup → Transaction Types → Fee Types" form).
- *Rate Type* – the foreign exchange rate. This is a mandatory field, whose value can be "Middle" or "Buy/Sell".
- *Fee Curr* – the fee currency.
- *Fee Base* – an additional mandatory fee which does not depend on the fee rate.
- *Fee %* – the fee rate.

- *Fee Day* – this field makes it possible to determine *Value Days* for an additional fee regardless of settings for the main fee. The value of the *Fee Day* field fully corresponds to the value of the *Value Days* field. To use this setting, it is necessary to specify the tag OWN_VALUE_DAYS in the *Service Details* field of the custom fee (for more details see the section "Tags used when configuring Service Packages and Services" of the document "Setup Tags").
- *Direction* – a mandatory field that determines the direction of the fee, where the value "Debit" indicates that the client is charged a fee for the operation, the "Credit" value specifies that the client is paid a fee for an operation, and "None", where no fee is charged.
- *Fee Tariff* – selection from a drop-down list of registered tariff types with the "Service" role. If the bank's distribution package does not include the Way4 Tariffs module, the field is empty.



The Way4 Tariffs module is not included in the basic Way4 configuration and is supplied under a separate agreement with the OpenWay system vendor.

- *Fee Code* – the fee code. This field is used for interaction with external systems and when it is necessary to reflect the given fee as a separate line in a statement of accounts. In the latter case, in addition to filling in this field, it is necessary to set the parameter "P_SHOW_CUSTOM_FEE" of the corresponding report (see the section "Contract Statement Parameters" in the Cardholder Statements User Manual). The *Fee Code* field value is selected from a list (handbook). The handbook of codes is generated on the basis of codes already entered in Way4 using the menu item "Full → Configuration Setup → Products → Generate Service Fee Codes".
- *Fee Account* – account of the contract that is specified in the *Fee Contract* field (in the form with full information about a custom fee, opened by clicking the [Full Info] button. This account will be used for transferring fees.
- *Is Ready* – the *Is Ready* field shows that changes made to the given Service were approved.

Click the [Full Info] button to access the form with full information about additional fees (see Fig. 8 in the section "Full Information about a Service" for a similar form).



If a custom fee's *Account Type* field specifies the account type for which the balance type is configured and the account currency differs from the contract currency, the fee is blocked in the account currency. If a balance type is not set for an account, the fee is blocked in the contract currency.

Click the [Approve] button in the "Service Packs" form to approve changed Services.

3 Working with Service Packages

Working with Service Packages includes the following:

- Current Service Parameters (Approved Services)
- Copying Service Packages
- Configuring Additional Service Packages
- Configuring Usage Limiter Templates
- Configuring Events
- Configuring Message Templates (Group Msg)
- Configuring Preferred Counterparties (Preferred)
- Entering and Editing Tags
- Checking Service Packages
- Approving Service Packages

3.1 Current Service Parameters (Approved Services)

The forms "Target for ..." (see Fig. 6 in the section "Target Services"), "Source for" (see Fig. 5 in the section "Source Services") and "Miscellaneous for ..." (see Fig. 7 in the section "Miscellaneous Services") show the values of Service parameters saved after the last configuration. These values are not necessarily the current ones, as it is possible to set parameter changes for a future date (see the section "Approving Service Packages").

Click the [ServiceAppr] button in the form with additional information about a Service Package (see the section "Additional Parameters of Service Packages") to open the special form "ServiceAppr for <name of Service Package>" (see Fig. 10). This form contains a list of the current values of Service parameters.



This operation is not available for additional Service Packages and child Service Packages (linked to a parent Service Package through the *Parent Pack* field). When it is necessary to view current parameter values of a child Package, use the "ServiceAppr for..." form of the parent Service Package.

ServiceAppr for 001-Accounting Private										<< < > >>			1 of 6		b x
	Service Class	Src/Tgt	Service	Allowed	Fee Dir	Fee Curr	Fee %	Base	Min	Rate Type	Account Type				
+	Transaction	Target	001-Accounting Private : Trans Type=Credit	Always	None		0,00	0,00	0,00	Middle	CI Deposit				
	Misc	Target	001-Accounting Private : Trans Type=OVD;	Always	Debit		0,00	0,00	0,00	Middle	CI Deposit				
	Misc	Target	001-Accounting Private : Trans Type=OVL;	Always	Debit		0,00	0,00	0,00	Middle	CI Deposit				
Ins	Del	Query	Full Info												

Fig. 10. Form for viewing the list of active Services in the Service Package

The "Approved for <name of Service Package>" form contains the following fields:

- *Service Class* – the transaction class according to the bank classification, for example:
 - The value "Transaction" means that the Service is a card transaction.
 - The "Misc" value means that the Service describes fee charging/payment.
- *Src/Tgt* – this field can have one of two values:
 - "Source" means this Service is used for operations in which the contract used by the given Service Package is the source of transaction information.
 - "Target" means this Service is used for operations in which the contract used by the given Service Package is the target of transaction information.
- *Service* – Service name.
- *Allowed* – this field can have one of the following values:
 - "Always" – the Service permits transactions to be executed.
 - "Offline on Issuing" – the Service prohibits authorizations, but processes financial documents registered in the system without authorization according to Service rules using a dispute contract.
 - "Offline on Acquiring" – the Service permits acquiring operations offline only (this Service is like the "Credit" operation in the MasterCard payment system).
 - "Never" – the Service prohibits authorization and processing of financial documents.
- *Fee Dir* – a mandatory field that determines the direction of a fee, where the value "Debit" means that the client is charged a fee for the transaction; "Credit", the transaction fee is paid to the client, and "None", no fee is charged.
- *Fee Curr* – fee currency.
- *Fee %* – fee rate.
- *Base* – an additional mandatory fee that is charged and does not depend on the fee rate.
- *Min* – the minimum amount of the fee charged regardless of the transaction amount.
- *Rate Type* – the type of foreign exchange rate.
- *Account Type* – the type of contract account on which transactions are made and fees are charged.

Clicking the [Full Info] button opens the form containing full information about a Service in viewing mode (see Fig. 8 in the section "Full Information about a Service")

for a similar form). The [FI Params] button of this form is used to show changes to Service Package parameters that are made when the given Service Package is transferred to another financial institution.

Current Service parameters are accessible from the form with full information about a Service (see the section "Full Information about a Service") by clicking the [History] button to open a form with full information about a Service in viewing mode.

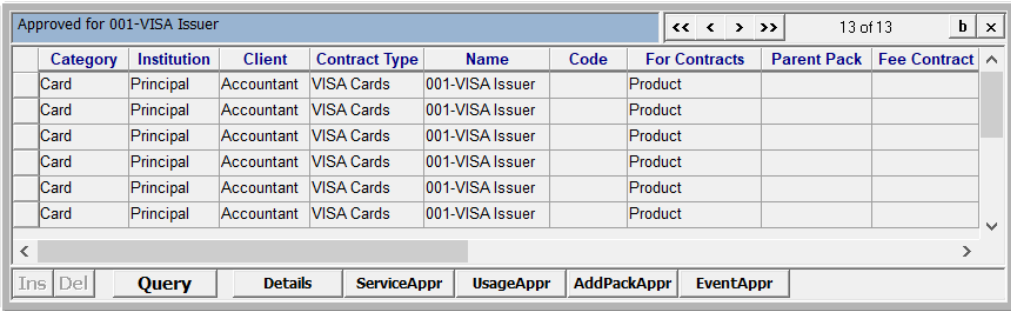
3.2 Service Package Parameter Approval History

The "Approved for <Service Package name>" form (see Fig. 11) opened by clicking the [Approved] button in the form with additional information about a Service Package (see the section "Additional Parameters of Service Packages") shows this Package's approval history. Each time the Service Package is approved, a new record is added to this form. The record contains the Package's approved parameters and dates for using them (*Date From* and *Date To* fields).

For each record with approved parameters, information is saved about Service parameters ([ServiceAppr] button), usage limiters ([UsageAppr] button), additional Service Packages ([AddPackAppr] button), and Events ([EventAppr] button) that are active at the time of approving the Service Package.



The "Approved for <Service Package name>" form is intended for forward compatibility. In the current Way4 version, Package parameters are saved in the system each time the Package is approved, but Service Package historical records are not used when running processes in Way4.



The screenshot shows a window titled "Approved for 001-VISA Issuer". It contains a table with the following columns: Category, Institution, Client, Contract Type, Name, Code, For Contracts, Parent Pack, and Fee Contract. The table lists six identical records for "Card" category, "Principal" institution, "Accountant" client, "VISA Cards" contract type, and "001-VISA Issuer" name. Below the table is a navigation bar with buttons: Ins, Del, Query, Details, ServiceAppr, UsageAppr, AddPackAppr, and EventAppr. The "Query" button is currently selected.

Category	Institution	Client	Contract Type	Name	Code	For Contracts	Parent Pack	Fee Contract
Card	Principal	Accountant	VISA Cards	001-VISA Issuer		Product		
Card	Principal	Accountant	VISA Cards	001-VISA Issuer		Product		
Card	Principal	Accountant	VISA Cards	001-VISA Issuer		Product		
Card	Principal	Accountant	VISA Cards	001-VISA Issuer		Product		
Card	Principal	Accountant	VISA Cards	001-VISA Issuer		Product		
Card	Principal	Accountant	VISA Cards	001-VISA Issuer		Product		

Fig. 11. Form for viewing the history of Service Package parameter approval

3.3 Copying Service Packages

Way4 allows users to copy Service Packages. This function ensures that users do not have to spend a lot of time setting up parameters for new Service Packages based on existing ones.

Service Packages are copied:

- In the form with the Service Package's main parameters (see Fig. 2 in the section ""Service Packs" Form") by clicking the [Approve] button and selecting "Duplicate" from the context menu.
- In the form with additional information about the Service Package (see Fig. 3 in the section "Additional Parameters of Service Packages"). Click the [Actions...] button and select the value "Duplicate" from the context menu.

A form will open for selecting the contract type, see Fig. 12.

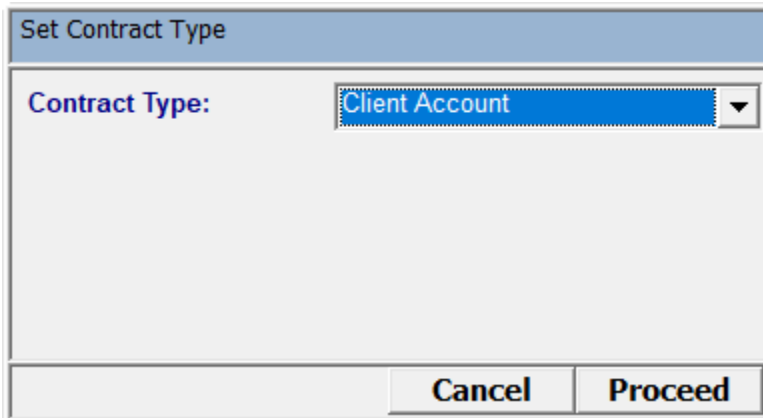


Fig. 12. Form for selecting a contract type

If a different contract type is selected for a new Package's Services, the contract subtype automatically changes and the correct transaction subtype (for each Service) is set. If in the old Service Package some Services have a *Target Type* field value (for Source Services) or *Source Type* field value (for Target Services) that matches the value of the Service Package's *Contract Type* field, the new contract type will be set in these fields.

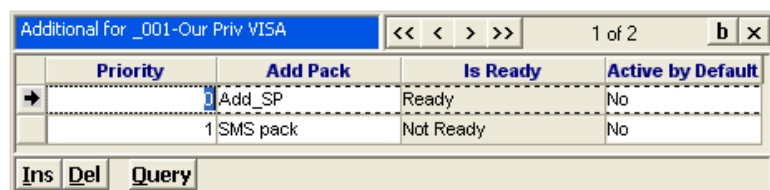
After copying, a new Service Package will be added to the list of Service Packages. It will differ from the original by an underscore added as a prefix to the Service Package name.

Way4 allow allows copying of separate Services within a Service Package. This is possible as follows:

- In the form with the main information about Services (see the section "Service Types") using the [Duplicate] button.
- In the form with full information about a Service (see Fig. 8 in the section "Full Information about a Service"). Click the [Actions...] button and select the "Duplicate" value from the context menu. The Service parameters are copied in full.

3.4 Configuring Additional Service Packages

Way4 allows new Service Packages to be created as a combination of existing Service Packages. This considerably decreases the number of management points for tariffs and limiters. To create an additional Service Package, click the [Additional] button in the "Service Packs" form (see Fig. 2 in the section ""Service Packs" Form"). This displays the "Additional for <name of Service Package>" form (see Fig. 13)



Priority	Add Pack	Is Ready	Active by Default
→	Add_SP	Ready	No
	1 SMS pack	Not Ready	No

Ins Del Query

Fig. 13. Form for entering information on an additional Service Package

This form contains a list of additional Service Packages for the selected Service Package (package marked as "Additional", see the section "For Contracts") and may contain Risk Packages (package marked as "Risk Rule", see the section "For Contracts").

Service Packages for risk control are created and activated in special forms of the monitoring module (see the document "Risk Monitoring"). The "Additional for..." form can be used to view additional Service Packages for risk control, it is not recommended to edit settings for their activation in this form.

To add a new additional Service Package (with the "Additional" marker) in the form "Additional for ...", click the [Ins] button and fill in the following fields of the new record:

- **Priority** – Service Package priority level used to resolve conflicts between Services of different additional Service Packages describing the same transaction; the priority value is specified in numeric form (0, 1, etc.) with a larger value being of higher priority: in the event of a conflict, the system chooses the Service Package with the highest priority.



Service Package priority is analyzed when there are two appropriate Services that are filled the same way and have the same priorities in different additional Service Packages, or in a main and additional Service Package. In this case if the priorities of Services of the main and additional Service Package are the same, the Service of the main Package will be selected (i.e. when priorities are equal and Services are filled the same, the main Service Package has priority).

- **Add Pack** – the name of the additional Service Package.

- *Active by Default* – the Package's default activation status. This field has two possible values:
 - "Yes" – the additional Service Package will be active by default when the corresponding main Service Package is selected during contract creation or editing.
 - "No" – the additional Service Package will not be used when the corresponding main Service Package is selected; activation of this additional Service Package is possible through the configuration of Events (see the section "Activating Additional Service Packages" in the Events Administrator Manual).

Specifics of working with the *Active by Default* field when an Event is used to activate/deactivate a Package:

A Package's default activation status (value of the *Active by Default* field) can be redefined in the Event that activates the Package (using the Event's *Switch Tag* field).

- When an Event is used to activate/deactivate a Package (when the Event opens), the value of the additional Package's *Active by Default* field is compared with the value of the Event's *Switch Tag* field:
 - ◆ If they match (i.e. if the default value is used), the Package's activation status is not recorded for the contract (records are not created in the ADD_PACK_INC table).
 - ◆ If the values differ, the Event's *Switch Tag* field redefines the value of the *Active by Default* field for the Package that is being activated. Records are created in the ADD_PACK_INC table that record the Package's activation status that is defined by the Event.
- After the Event closes, the Package's activation status is determined by the current value in the *Active by Default* field (when the Event closes, records are deleted from the ADD_PACK_INC table). I.e., if the *Active by Default* field was changed while the Event was active, after the Event closes, the new default status will be used.

The system's old behavior can be restored, in which:

- When an Event is used to activate a Package (when the Event opens), the status is fixed in the ADD_PACK_INC table for the contract's entire subsequent lifecycle (if the Event does not close, a fixed value is used; if the Event closes, the opposite value is used, see below). The status is recorded even if the default status is not redefined by an Event. After recording, the value of the additional Package's *Active by Default* field is no longer considered for the contract.

- After an Event that redefined the value of the *Active by Default* field closes, the activation status changes to the exact opposite value, this activation status is fixed for the contract's entire subsequent lifecycle. I.e. if an Event activated a Package, when this Event closes, the Package is deactivated. If the Event deactivated a Package, the Package will be activated when the Event closes. The value in the additional Package's *Active by Default* field is no longer considered for the contract.

To restore the system's previous behavior, use the tag `ADD_PACK_MODE=OLD`; for the Event type (*Special Parameters* field, see the section "Event Types" of the document "Events") or for an activating/deactivating Event (*Parameters* field, see the section "Activating Additional Service Packages" of the document "Events") that is set up for the main Service Package.

Note that if the tag is set for an activating/deactivating Event, previous behavior is restored only for opening Events. Events will be closed in the new mode. To restore the previous behavior for both opening and closing Events, specify the tag for the Event type.

The old behavior can be used, for example, if the default value in a Package (*Active by Default*) changes and the old default value must be recorded for contracts that were already created. In this case, before changing the default value, set the tag `ADD_PACK_MODE=OLD`; for the corresponding Events, after the Events open for contracts and the activation status is recorded, remove the tag and change the *Active by Default* field.

Example1.

An additional Package has the "No" value in the *Active by Default* field. Event1 with the "Single" type activates this Package for a contract ("Yes" is specified in the *Switch Tag* field for the Event). Then the value in the *Active by Default* field changes to "Yes". When Event2 opens (with the "Unique" type) that closes Event1 (Event2 has "Yes" in the *Switch Tag* field), no change is made to the current default status. In the old mode, the default activation status isn't considered, the activation status changes to "No" (to the opposite), the additional Package is recorded with an inactive status for the contract. In the new mode, the additional Package remains active for the contract.

Example2

An additional Package has the "No" value in the *Active by Default* field. Event1 with the "Day" type activates this Package for a contract for 5 days ("Yes" is specified in the *Switch Tag* field for the Event). Then the value in the *Active by Default* field changes to "Yes". After the Event expires, in the old mode the additional Packages is recorded with an inactive status for the

contract (the status changes to the opposite). In the new mode, a change is made to the current default status, i.e. the Package remains active for the contract.



Note that only Service Packages with the value "Additional" in the *For Contracts* field of the "Service Packs" form and a contract type (*Contract Type* field) which corresponds to the main Package can be used as an additional Service Package. However, the value of the *Client Category* field for the main and additional Service Package may differ.

Moreover, Service Packages with the "Additional" value can only be connected to main Service Packages (those that have the "Product" value in the *For Contracts* field of the "Service Packs" form).

The list of additional Service Packages for a certain contract is accessible in forms for viewing and editing contract data (see the Customer Service User Manual).

If a usage limiter template (see the section "Entering and Configuring Limiter Templates" in the Usage Limiters Administrator Manual) is configured for an additional Service Package, and the code of this template does not correspond to any codes of limiter templates in the main Service Package, this template will be inherited by the main Service Package. If the codes coincide, both limiters will be activated.

After filling in the form, click the [Approve] button in the "Service Packs" form to approve changes to the Service Package.



In the *Special Params* field, conditions can be configured for attaching Additional Service Packs according to set client and contract classifier values (using the IF_CS group tags). For more information, see the section "Executing Actions Depending on Classifier Values" in the document "Way4™ Client and Contract Classifiers").

When attaching a Service Package, preferred counterparties set up for it are inherited to the main Service Package. If an attached Service Package is deleted from the list of attached Service Packages (from the "Additional for <Service Package> name" form (see Fig. 13)), inherited preferred counterparties are deleted from the main Package.

Until version 03.41.30, inherited preferred counterparties were not deleted from the main Package when an attached Service Package was deleted. For configurations set up before version 03.41.30, use the menu item "Full → Configuration Setup → Products → Purge Utilities → Check service pack preferred" to check preferred counterparty settings in Service Packages. If the check finds Service Packages with "invalid" inherited preferred counterparties, the corresponding message will be shown (these Service Packages are listed in the process log. Preferred counterparties inherited from a deleted attached Package will be deleted from the main Service Package when changes to the main Service Package are approved.

3.5 Configuring Usage Limiter Templates

Way4 allows various limits on transaction activity to be used for contracts. Such limits are set using contract usage limiters.

In Service Packages, limiter parameters are set in general templates. These templates determine limiter parameters for all contracts using the corresponding Service Package.

To configure a limiter template, click the [Usage] button in the "Service Packs" form (see Fig. 2 in the section ""Service Packs" Form"). For more information about configuring limiter templates, see the section "Entering and Configuring Limiter Templates" in the Usage Limiters Administrator Manual.

3.6 Configuring Events

The system allows the activation or deactivation of the link between an additional Service Package and the Service Package of contracts when an Event occurs.

To set such an Event, use the "Events for <name of Service Package>" form opened by clicking the [Events] button in the "Service Packs" form (see Fig. 2 in the section ""Service Packs" Form"). For more information on configuring this type of Event, see the section "Activating Additional Service Packages" in the Events Administrator Manual.

3.7 Configuring Message Templates (Group Msg)

Way4 allows information or marketing messages to be sent to a client whose contract uses the given Service Package.

To configure message templates, click the [Group Msg] button in the "Service Packs" form (see Fig. 2 in the section ""Service Packs" Form".) For more information about message templates, see the "Configuration of Client Messages" document.

3.8 Notification that a Misc Fee will be charged

This setting makes it possible to open an Event for a specified number of days before a Misc fee is to be charged and to send the corresponding message to the client.

Setup is performed with the EVENT_BEFORE=<Event type> and <EVENT_BEFORE_DAYS=<number of days> tags in the Misc service or transaction subtype.



Note that for annual fees, the EVENT_BEFORE_DAYS tag can be specified only in a transaction subtype.

One Event type can be used for notification about any Misc fees, since information about the upcoming fee goes into the Event's tags when opening it (in the Event log – the USAGE_ACTION table).

Events for notification are processed in the standard way when the banking date opens. If there are weekends/holidays, notifications about fees for several days can be sent using one Event.

Example 1. The value of the EVENT_BEFORE_DAYS parameter is "3". A standard calendar is used, in which Saturday and Sunday are holidays. When Monday is opened, fees can be charged that fall on Saturday, Sunday, and Monday. Events to notify about the fees for all these days are opened as though for Saturday – when Wednesday is opened.

Example 2.

- The value of the EVENT_BEFORE_DAYS parameter is "3".
- There will be holidays from 31/12/2016 to 08/01/2017. The business date 09/01/2017 is opened in the evening of 30/12/2017. All fees will be charged that fall in the period from 31/12/2016 to 09/01/2017.
- Notifications for all these fees will be sent on 28 December. Notifications will not be sent on 29 December and 30 December (since they were already sent 3 days before the holidays started).
- When 09/01/2017 is opened, notifications are sent for fees to be charged from 10 to 12 January (since 10 and 11 are weekends and notifications could not be sent earlier, since banking days were not opened).



When the procedure for opening the day is performed at the start of the business day, it is recommended to use a longer period for notification (for example, 5 days instead of the 3 days in our example). This makes it possible to avoid delays in sending notifications when there are weekends/holidays. For example, in our example, when Monday is opened on Monday morning, notifications about fees to be charged on Tuesday will only be sent on Monday.



When the procedure for opening the day is performed at the start of the business day, it is recommended to use a longer period for notification (for example, 5 days instead of the 3 days in our example). This makes it possible to avoid delays in sending notifications when there are weekends/holidays. For example, in our example, when Monday is opened on Monday morning, notifications about fees to be charged on Tuesday will only be sent on Monday.

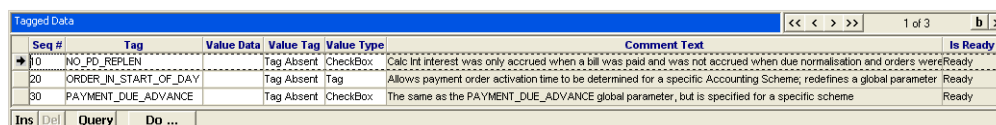
3.9 Configuring Preferred Counterparties (Preferred)

To expand the functionality of Services, preferred counterparties (Preferences) are used, which can be defined on the Service Package level. To configure the list of counterparties, click the [Preferred] button in the "Service Packs" form (see Fig. 2 in the section ""Service Packs" Form"). For more information about preferred counterparties, see the Preferred Counterparties Administrator Manual.

3.10 Entering and Editing Tags

The "Details for <name of Service Package>" and "Full Info for <name of Service>" forms contain special fields for entering and editing tags. These are the *Special Parm*s and *Service Details* fields, respectively.

To optimise the process of entering and editing tags in the given fields, the "Tagged Data" form (see Fig. 14) is used. This form is opened by clicking the [Tagged Data] button in the "Details for <Service Package name>" and "Full Info for <Service name>" forms.



Seq #	Tag	Value Data	Value Tag	Value Type	Comment Text	Is Ready
10	NO_PD_REPLEN		Tag Absent	CheckBox	Calc Int interest was only accrued when a bill was paid and was not accrued when due normalisation and orders were ready	
20	ORDER_IN_START_OF_DAY		Tag Absent	Tag	Allows payment order activation time to be determined for a specific Accounting Scheme; redefines a global parameter	Ready
30	PAYMENT_DUE_ADVANCE		Tag Absent	CheckBox	The same as the PAYMENT_DUE_ADVANCE global parameter, but is specified for a specific scheme	Ready

Fig. 14. The "Tagged Data" form

To add a tag, click the [Ins] button and fill in the fields of the new record.

- The name of the tag in the *Tag* field can be selected from a system list of tags. If the tag is absent from this list, its name can be entered manually.
- The value of the tag is entered in the *Value Data* field.
- The *Value Tag* field:
 - When entering tag parameters in the "Tagged Data" form, it is necessary to select the value "Tag Present" in the *Value Tag* field for tag parameters to be saved correctly. After saving, tag parameters will be displayed in the corresponding field of the higher-ranking form (in the *Special Parm*s or *Template Details* field).
 - When the "Tag Absent" value is selected in this field, the record of this tag will be deleted from the "Tagged Data" form, as well as from the corresponding field of the higher-ranking form, after changes are saved.
- The *Value Type* field is used to specify the type of tag value entered in the *Value Data* field:
 - "CheckBox" – in this case, it is not necessary to fill in the *Value Data* field.

- "String" – a string value.
 - "Counter" – the tag value is entered as a whole number (from "0" to "9").
 - "Tag" – the tag value is entered as one symbol (usually "Y" or "N").
 - "Money" – a numeric value.
 - "Currency" – the tag value is entered as a numeric currency code.
 - "Unknown" – the tag value is not set although it is mandatory to enter a value in the *Value Data* field.
 - "List" – the tag value can be set as a list of values. In initial manual setup, a comma-delimited list of values is specified in the *Value Data* field (or in the *Special Params* and *Service Details* fields of the higher-ranking form). After data is saved, each "List" type tag value will be displayed as a separate record in the "Tagged Data" form.
- The *Comment Text* field displays the description of the tag whose name is selected from the system list.
 - The *Is Ready* field displays the results of checking tag parameters:
 - The value "Ready" is displayed if the check was successful.
 - The value "Not Ready" is displayed if errors were found during the check.

To check the correctness of tag parameters, click the [Do...] button and select the value "Check" from the context menu. If an error is found, a window with the corresponding message will open.

To save entered data, click the [Do...] button and select the value "Save Tags" from the context menu.

Tag parameters entered in "Tagged Data" can be saved by clicking the [Actions...] button and selecting an item from the context menu:

- "Save Tagged Data" (in the "Details for <name of Service Package>" form).
- "Save Tags" (in the "Full Info for <name of Service>" form).

3.11 Checking Service Packages

Service Package parameters are checked in the screen form with additional information about a Package (see Fig. 3 in the section "Additional Parameters of Service Packages") by clicking the [Actions...] button and selecting the value "Check" from the context menu.

If errors occur when checking Service Package parameters, a window with the "Error" heading will appear on the screen. Information about errors can be found in the process log by selecting "Full → Process Log → Last Process" from the user menu. This

menu item is used to open the "Last Process" form containing information about the last system process.

3.12 Approving Service Packages

After creating or changing Service Package parameter values, click the [Approve] button in the Service Package grid forms (see Fig. 2 in the section ""Service Packs" Form" or Fig. 4 in the section "Special Forms for Working with Service Packages") to approve changes. Note that it is possible to approve changes to a Service Package from a date different from the current date. To do so, specify the corresponding date in the form which appears when the [Approve] button is clicked (see Fig. 15).



Fig. 15. Form for setting the date when approving a Service Package.

Approved changes to a main Service Package will be active beginning from the date indicated. If this date is before or on the current banking date, changes will be active immediately. If this date is after the current banking date, the approved changes (except for changes to limiters) will come into effect only after the opening of the corresponding banking day. When approving a Service Package with a future date, changes to limiters will be applied when the Package is approved (when the value of the global parameter APPROVE_IMMEDIATE is "Y") or when the menu item "Full → Configuration Setup → Products → Apply Service Pack Changes" is run (when the value of the global parameter APPROVE_IMMEDIATE is "N"). In this case, limiters become effective according to the new rules on the specified system date, before the corresponding banking date is opened.



In the production system, it is recommended to approve Service Packages with the current or future date, except for cases when the Reversal Management module is used. The module is supplied according to a separate agreement with OpenWay.

Note that this date affects activation of the main Package's Services. Settings for Events and Additional Service Packages become effective immediately after approval of the main Package, regardless of this date.



A check is performed when approving a Service Package. If two Services in a Package differ only by the value of the *Service Details* field (for example, in one Service, the field is filled in with a tagged parameter and in the other Service, it is not filled in), the Services are considered identical and the Service Package will not be approved. These Services should be given different priorities (see the *Priority* field).

When approving a Service Package, the specified balance types are checked (see the description of the BAL_TYPE tag in the "Setup Tags" document):

- Balance types with a *History Mode* parameter value other than "None" are used for Services.
- Balance types that are not hardcoded and not aggregating are used for Services.

Note that if changes to a Service Package's Service will become active in the future, the current value of this Service's parameters are available in the list of active Services (see the section "Current Service Parameters (Approved Services)").