BISTECH PTRM API

Technical Information Document

Version:1.1

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1. General

1.1 Scope

BISTECH PTRM offers the Exchange and its members the ability to control the risk arising from both orders and trades. Currently, members connect to the GUI (Graphical User Interface) of PTRM application via their users allocated by the Exchange through distant remote access. In order to provide connection between member software and PTRM application, PTRM system improved with API communication enrichment.

1.2 Business Rationale

Over the PTRM application; risk group checks, margin checks and suspended account checks are done via PTRM GUI. Parameters related to the risk controls determined by our members are updated statically. By adopting API communication development members may be able to update risk parameters dynamically to respond intraday market conditions being independent of GUIs' static adjustments and customize PTRM according to their own software needs.

2. Technical Information

2.1 Developments

PTRM API is a REST API (HTTP) service containing the required endpoints to be used in PTRM risk controls. The main groups of developed endpoints are listed below.

- Login Services
- Risk Group (User Limit) Services
- Margin Services
- Broadcast Services
- Suspended Account Sevices
- Exchange Rate Services

Information about these services is shared in the following part of the document, and detailed information on the content of the requests is also included in the PTRM API Technical Specification document.

2.1.1 Login Services

This group contains the endpoints that PTRM API users should use to login to the system. After logging into the system through the relevant services, token production will be made to be used in all transactions (GET, POST). When the generated token expires, it will need to be renewed through the services in this group.

Login Services	
login	It is a service that sends a request with the user's username and password information and generates tokens after checking the information.
	The relevant token is sent to the user, and in subsequent requests the token is sent as part of the request to check the validity of the request.
	A long-term valid token is also sent in the reply for use in the refresh-token service
refresh-token	It is the service that generates new tokens when the validity period of the token generated after successful login has expired.
	A user can also generate new tokens with the login operation. Refresh-token service is an alternative service for token renewal without having to send username and password information again.

2.1.2 Risk Group (User Limit) Services

This group contains the endpoints that PTRM API users should use for the risk controls at risk group level. Through the services in this group, all risk parameters related to risk groups will be requested and updated dynamically in line with changing market conditions.

Over the PTRM application, risk controls are done at different stages using different risk check types (Pre-Order Controls: Maximum Buy & Sell Size, Restricted Contracts, Price Tolerance Limit; Post-Order and At Trade Controls: Order rate limitations, Intraday position limits, Duplicate order limit; mass cancellation of orders, blocking and unblocking of user groups). Details of the risk check types is included in PTRM API Technical Specification document.

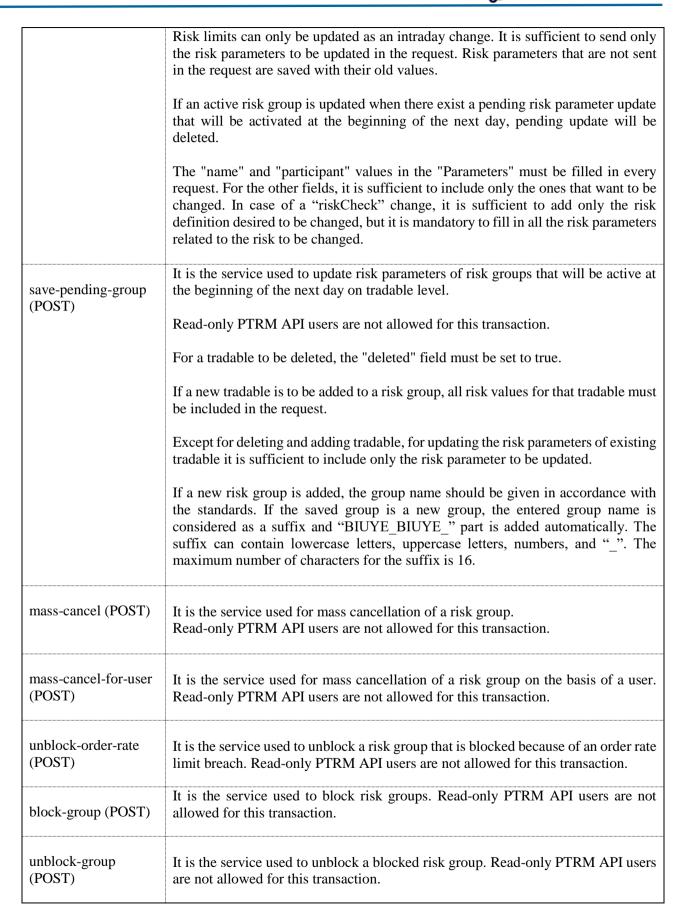| Risk Group (User Limit) Services	
active-group-details (GET)	It is the service used to request the detailed list of all active risk groups. Filtering on the basis of risk group is possible.
active-group-names (GET)	It is the service used to request the names of all active risk groups.
active-risk-check-details (GET)	It is the service used to request the details of risk parameters of active risk groups set on instrument type and instrument class[*] level. Filtering on the basis of risk group and risk check type level is possible.

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[*] *"Intrument type and instrument class" will be named as tradable in subsequent sections.*

active-exchange-group-details (GET)	It is the service used to request the detailed list of all active risk groups set by the Exchange. Filtering on the basis of risk group is possible.
active-exchange-group-names (GET)	It is the service used to request the names of all active risk groups set by the Exchange.
pending-group-names (GET)	It is the service used to request the names of all risk groups that will be active at the beginning of the next day.
pending-group-details (GET)	It is the service used to request the detailed list of all risk groups that will be active at the beginning of the next day. Filtering on the basis of risk group is possible.
pending-risk-check-details (GET)	It is the service used to request the details of risk parameters of risk groups set on tradable level groups that will be active at the beginning of the next day. Filtering on the basis of risk group and risk check type level is possible.
pending-exchange-group-names (GET)	It is the service used to request the names of all risk groups set by the Exchange that will be active at the beginning of the next day.
pending-exchange-group-details (GET)	It is the service used to request the detailed list of all risk groups set by the Exchange that will be active at the beginning of the next day. Filtering on the basis of risk group is possible.
tradable-details (GET)	It is the service used to request the detailed list of tradables in Exchange system.
tradable-details-by-filter (GET)	It is the service used to request the detailed and filtered list of tradables in Exchange system. Filtering on the basis of Name, Market, Underlying and Instrument Group is possible.
risk-check-consumptions (GET)	It is the service used to request both the limits and current consumptions of risk groups. Filtering on the basis of risk group, risk check type and tradable level is possible.
save-active-group (POST)	It is the service used to update risk parameters of active risk groups on tradable level. Read-only PTRM API users are not allowed for this transaction. The risk parameters to be updated at tradable level must belong to an active risk group. No changes can be made to the e-mail information and user list.

	Risk limits can only be updated as an intraday change. It is sufficient to send only the risk parameters to be updated in the request. Risk parameters that are not sent in the request are saved with their old values. If an active risk group is updated when there exist a pending risk parameter update that will be activated at the beginning of the next day, pending update will be deleted. The "name" and "participant" values in the "Parameters" must be filled in every request. For the other fields, it is sufficient to include only the ones that want to be changed. In case of a "riskCheck" change, it is sufficient to add only the risk definition desired to be changed, but it is mandatory to fill in all the risk parameters related to the risk to be changed.
save-pending-group (POST)	It is the service used to update risk parameters of risk groups that will be active at the beginning of the next day on tradable level. Read-only PTRM API users are not allowed for this transaction. For a tradable to be deleted, the "deleted" field must be set to true. If a new tradable is to be added to a risk group, all risk values for that tradable must be included in the request. Except for deleting and adding tradable, for updating the risk parameters of existing tradable it is sufficient to include only the risk parameter to be updated. If a new risk group is added, the group name should be given in accordance with the standards. If the saved group is a new group, the entered group name is considered as a suffix and "BIUYE_BIUYE_" part is added automatically. The suffix can contain lowercase letters, uppercase letters, numbers, and "_". The maximum number of characters for the suffix is 16.
mass-cancel (POST)	It is the service used for mass cancellation of a risk group. Read-only PTRM API users are not allowed for this transaction.
mass-cancel-for-user (POST)	It is the service used for mass cancellation of a risk group on the basis of a user. Read-only PTRM API users are not allowed for this transaction.
unblock-order-rate (POST)	It is the service used to unblock a risk group that is blocked because of an order rate limit breach. Read-only PTRM API users are not allowed for this transaction.
block-group (POST)	It is the service used to block risk groups. Read-only PTRM API users are not allowed for this transaction.
unblock-group (POST)	It is the service used to unblock a blocked risk group. Read-only PTRM API users are not allowed for this transaction.

unblock-tradable (POST)	It is the service used to unblock a risk group that is blocked because of duplicate order limit breach. Tradable must be set under the risk group. Read-only PTRM API users are not allowed for this transaction.

2.1.3 Margin Services

This group contains the endpoints that PTRM API users should use for the margin controls.

Margin Services	
margin-requirement-accounts (GET)	It is the service used to request margin information by account level. "Available Collateral" and "Margin Consumption" information is obtained instantly through this service.
margin-requirement-accounts-in-breach (GET)	In the case where margin consumption exceeds the available collateral or the available collateral is negative for an account, breach will occur and the affected account will be in "risky" status. Risky accounts are requested through this service.
pending-account-coefficient-values (GE	It is the service used to request the margin coefficients that will be active at the beginning of the next day.
margin-calculation-accounts (GET) margin-calculation-accounts-by-mra (GET) trading-accounts (GET)	It is the service used to request account hierarchy of a member. Collateral and margin accounts of a member is obtained through this service.

2.1.4 Broadcast Services

This group contains the endpoints that PTRM API users should use for requesting near real time risk data. Dynamically updated risk information is obtained through these services. All updates that take place during the period of member's active connection are received without interruption. When a PTRM API user connects to the services in this group, this user receives the data on risk group and margin checks as detailed below. If a member wishes to make more than one connection to the services (for example, if a member wishes to receive data on risk group controls from a second channel), this member will need a new PTRM API user for this additional connection.

Broadcast Services	
margin-requirement-accounts/get-updates (GET)	It is the service used to request margin information instantly. All updates that take place during the period of member's active connection are received without interruption. When there is no data flow, the timestamp is sent at certain intervals and thus it is understood that the connection is healthy.
risk-check-consumptions/get-updates (GET)	It is the service used to request risk information on risk groups instantly. All updates that take place during the period of member's active connection are received without interruption. When there is no data flow, the timestamp is sent at certain intervals and thus it is understood that the connection is healthy.

2.1.5 Suspended Account Setvices

This group contains the endpoints that PTRM API users should use for the suspended account controls. "Suspended Accounts" and "Suspension History" information is requested through this group.

Suspended Account Services	
active-suspensions (GET)	Active "Suspended Accounts" information is requested and information on the suspension level, state, open order status, time and date, and the suspension reason is obtained through this service.
suspension-history-by-index (GET)	"Suspension History" information is requested through this service. With the RequestIndex parameter, it is possible to query information after the last data received. If the RequestIndex parameter is sent as 0 (zero), all information can be received.

2.1.6 Exchange Rate Services

This group contains the endpoints that PTRM API users should use for requesting exchange rates. Exchange rates used in risk calculations and system reference rate are requested through this group.

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all-currencies (GET)	If the risk calculation methods for position risk limits and maximum order size are determined as "value" in risk group controls, exchange rate information is used in the calculations. Exchange rates used in value calculations is requested through this service.

reference-currency (GET)	It is the service where the reference rate information can be obtained. The reference rate in the system is "TL".

2.2 Limitations

PTRM API users' requests to the provided services will be limited to a certain capacity (Throttling Quota). A user will be able to send a certain number of requests for each service in a certain time interval and will receive a message when the capacity is exceeded. Detailed limit information will be announced later.