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PREFACE

PURPOSE

Euronext RiskGuard for Cash Markets is the Euronext pre-trade risk management service, providing Risk Managers at Clearing or Trading Euronext Member firms with the ability to monitor their clients' or firm's risk exposure. RiskGuard can be used to support one of the following use cases:

- **Self-monitoring**: when a Euronext trading participant uses RiskGuard to monitor the risks associated to its own trading activity;
- **General Clearing Member's controls**: when a General Clearing Member (GCM), delegated by its Non Clearing Member (NCM, which is a Euronext trading participant), uses RiskGuard to control the cleared risk exposure generated by the trading activity of its NCM;
- **Sponsored Access**: when a Euronext trading participant, in accordance with the Euronext Harmonised Rulebook, uses RiskGuard to control the risk related to the trading activity of one of its Direct Market Access (DMA) clients[1].

This document describes the key features of the RiskGuard service and how to set and amend the available pre-trade risk controls. Commands for Euronext RiskGuard Cash can be submitted via FIX OEG API. No web-based User Interface (UI) is available for RiskGuard on Euronext Cash Markets at this stage.

All Euronext RiskGuard cash controls are configurable by a Risk Manager, and are provided in addition to the Exchange-level controls defined by Euronext in accordance with Article 20 of Commission Delegated Regulation (EU) 2017/584 of 14 July 2016.

TARGET AUDIENCE

This document should be read by Risk Managers at Trading Member or General Clearing Member firms who use the Euronext RiskGuard service, as well as by risk-monitored firms that are directly connected to the market under the responsibility of a trading participant.

This document must be read in conjunction with the documents below.

ASSOCIATED DOCUMENTS

The following lists the associated documents that either should be read in conjunction with this document or which provide other relevant information for the user:

- Euronext Markets - Optiq® OEG Client Specifications – SBE Interface
- Euronext Markets - Optiq® OEG Client Specifications – FIX 5.0 Interface
- Euronext Cash Markets - Optiq® Kinematics Specifications
- Euronext Markets - Optiq® Drop Copy Service

[1] The availability of RiskGuard Cash for Sponsored Access services is currently limited to Borsa Italiana. Availability for other Euronext markets will be communicated in due course.

- Euronext Markets - Optiq® & TCS Error list file
- Conformance Script RiskGuard v 1.1

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WHAT'S NEW?

VERSION NO.	DATE	CHANGE DESCRIPTION
1.0	31 July 2022	Initial version
1.1	22 December 2022	- New "Auto Kill Switch on Drop Copy Disconnect" functionality added. - Added definition for the "On behalf" service. - Changed term "Sponsoring Firm" into "Sponsoring Member", and "Sponsored Client" into "Sponsored Participant" to provide better alignment with applicable Rules.
1.2	1 February 2022	- Added "Sponsoring Firm" in the definitions. - Enhancements to the "Order Amount Limit" functionality (possibility to send the command without specifying an Instrument ID - "global" OAL command).
1.3	7 March 2025	- New "Unpriced Orders Restriction" functionality added. - Streamlined the document by removing references to functionalities "for future implementation" (MEP and SourceID) and outdated associated documents.

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1. OVERVIEW

The Euronext RiskGuard service for Euronext Cash Markets is designed to provide Risk Managers at Clearing and Trading Member firms the ability to set pre-trade risk controls in order to manage their customers' or firm's risk exposure in real-time.

The RiskGuard service is available for Risk Managers through the Optiq OEG FIX protocol, for the markets in the following Optiq segments[2]:

- Equities;
- Funds;
- Fixed Income;
- Block.

The following RiskGuard **user-defined** risk controls are available for Euronext Cash Markets:

- 'Suspend / Unsuspend' ('Kill Switch');
- 'Block / Unblock' (also referred to as 'Instrument Restrictions');
- Unpriced Orders Restriction;
- Order Amount Limit (OAL).

In addition, a limit on the maximum number of messages per second is available to Risk Managers, through the throttling mechanism in place on Optiq, at Logical Access level.

The Euronext RiskGuard service for Cash Markets can be used in conjunction with the dedicated Drop Copy service. Risk Managers can require dedicated Drop Copy feeds containing exclusively the messages submitted by one or more of their risk-monitored entities, in order to optimise their controls. For additional information, please refer to the document "Euronext Markets – Optiq® Drop Copy Service".

Where Sponsored Access services are concerned, as described in paragraph 3.5, in the case that the Risk Member is disconnected from a Drop Copy that is set up to control one specific risk-monitored entity (hereinafter a "Sponsored Drop Copy"), a Kill Switch command will be automatically triggered on the corresponding FirmID (the "Auto Kill Switch on Drop Copy disconnection" functionality).

[2] RiskGuard for Cash Markets does not cover instruments belonging to the trading groups dedicated to 'direct distribution' services (IPO, takeover bid etc.) in the segments where such services are available.

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1.1 KEY CONCEPTS

- **RiskGuard controls.** The Suspend/Unsuspend, Block/Unblock, Unpriced Orders Restriction and OAL user-defined controls.

- **RiskGuard commands**. The technical messages that are available to activate, deactivate or trigger the RiskGuard controls.

- **Risk Member**. The Risk Member corresponds to the firm that uses the Euronext RiskGuard service to control the trading activity of a risk-monitored entity. The Risk Member can be either:
  - a General Clearing Member (GCM), referred to as '*RiskGuard Clearer*' in this document;
  - a Non Clearing Member (NCM) or Individual Clearing Member (ICM), referred to as '*RiskGuard Member*' in this document.

  If the Risk Member is an NCM or ICM**,** the Risk Member is said to be risk self-monitoring, as it is only allowed to monitor its firm's and its clients' exposure to the Euronext Cash Markets. If the Risk Manager is using RiskGuard to define pre-trade controls for one of its clients that is directly connected to Optiq, RiskGuard is used to support Sponsored Access services and the Risk Member is also referred to as the "Sponsoring Member". RiskGuard Clearers and Members can set or amend risk controls for their risk-monitored entities at FirmID level (plus eventually with additional granularities as specified in this document for each RiskGuard control).

- **Risk Manager**. The Risk Manager corresponds to a user of the Euronext RiskGuard service within a Risk Member firm, who has been entitled to set up the RiskGuard pre-trade controls. A Risk Manager necessarily belongs to a Risk Member. A Risk Member can have several Risk Managers. The Risk Manager can set up any of the Risk Controls available through RiskGuard. In the case of Sponsored Access services, the Risk Manager is also referred to as a 'Sponsoring Firm';

- **Membership Authorisation**. A Membership Authorisation corresponds to a list of instruments on which a Euronext participant is authorised to trade. Risk controls within RiskGuard are always restricted to the Membership Authorisations between the Risk Member and the risk-monitored entity, i.e.:
  - For a RiskGuard Clearer, the set of Membership Authorisations correspond to the clearing agreement in place between the GCM and the NCM;
  - For a RiskGuard Member, the set of Membership Authorisations correspond to all markets covered by the membership application of the Trading Member Firm;
  - In the case that the RiskGuard Member is acting as a Sponsor, the set of Membership Authorisations will be defined according to the trading privileges allowed for the Sponsored Participant, which must be a subset of the Membership Authorisations of the RiskGuard Member itself.

- **Risk-monitored entity**. Refers to the entity that is controlled by a Risk Member. In RiskGuard, the risk-monitored entity can be represented by an entire trading firm, or a specific FirmID. In the case of Sponsored Access services, the risk-monitored entity:
  - is also referred to as a 'Sponsored Participant';
  - will be configured with a dedicated FirmID (and at least one dedicated Logical Access);
  - can be indirectly controlled (where relevant), by the GCM that is acting as the Risk Manager for its Sponsoring Member.

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- **Optiq Segment.** A portion of the Optiq trading system where financial instruments sharing the same characteristics are available for trading (equities, fixed income instruments, ETFs etc.). A segment is accessed with dedicated Logical Accesses (one Logical Access provides access to one Optiq Segment).

- **Optiq FirmID.** An identifier of the technical configuration for a trading participant, allowing the participant to send messages to the trading system. A FirmID is associated, among others, to the right to trade pre-defined groups of instruments in Optiq (each right representing a Membership Authorisation), the related authorised trading capacities, post-trade set-up, etc. RiskGuard commands must be triggered at the level of a specific FirmID. For a RiskGuard Clearer:
  - in the case that the controlled NCM or ICM is configured with more than one FirmID, a RiskGuard command must be sent for each individual FirmID;
  - commands sent by a RiskGuard Clearer on the FirmIDs of an NCM/ICM are automatically cascaded to the Sponsored Participants of that NCM/ICM, if it is also acting as a Sponsoring Member.

- **"On behalf" service.** When a Risk Manager requires Euronext Market Operations to send one of the available RiskGuard controls on behalf of the Risk Manager itself. This service is intended to support the Risk Manager in the case of technical issues, and should be required only in cases of justified urgency.

The following sections describe the key characteristics of the Euronext RiskGuard service for Cash Markets.

For additional information on the Optiq throttling mechanism, please refer to the following document: "Euronext Markets – Optiq® OEG Connectivity Specifications".

2. RISKGUARD COMMANDS

2.1 'SUSPEND / UNSUSPEND' (KILL SWITCH) FUNCTIONALITY

The '**Suspend / Unsuspend**' command (in the rest of this document, simply the **'Suspend'** command), or so-called '*Kill Switch'* functionality, allows Risk Managers to halt the trading activity of a risk-monitored entity via a single command.

The maximum extent of the Suspend command is an Optiq segment, meaning that a separate Suspend command will have to be triggered for each segment on which the risk-monitored entity is active.

The Suspend command is persistent, meaning that the suspension will not be automatically lifted at the end of the trading day. If suspended on day T and not unsuspended during the day, the risk-monitored entity will remain suspended at start of T+1.

It is possible to trigger the Suspend command on a FirmID, or at narrower levels of granularity as described in paragraph 3.2.

As the result of triggering the Suspend command:

- the risk-monitored entity is not logged off, but further order entry is rejected (new orders, order cancellation, order modification etc.). Please note that the Mass Cancel message will always remain available to the risk-monitored entity;
- the risk-monitored entity will be notified through its trading interface (SBE or FIX) that it has been suspended and a specific error code ('Suspended by Risk Manager') will be provided in related Reject messages;
- if the optional 'purge flag' is explicitly set to 'active' by the Risk Manager, all open orders belonging to the risk-monitored entity (including GTCs, GTDs) are deleted. The risk-monitored entity will receive specific pull notification messages, which will also be disseminated via the available Drop Copy services (Drop Copy Members and Third Parties).

The risk-monitored entity is excluded from trading until the Risk Manager explicitly reinstates it through the 'Unsuspend' functionality. As the result of the unsuspension action, the risk-monitored entity is notified of its 'Unsuspended' status, and it can re-start submitting messages into the relevant Optiq segment.

The Suspend / Unsuspend command:

- when triggered by a RiskGuard Clearer: applies to all Membership authorisations for which there is a clearing agreement between the GCM and the NCM, for the relevant Optiq segment;
- when triggered by a RiskGuard Member: applies to all Membership authorisations of the risk-monitored entity, for the relevant Optiq segment.

2.2 'Block / Unblock' functionality

The '**Block / Unblock**' command (in the rest of this document, simply the **'Block'** command) allows Risk Managers to stop trading activity in a specific instrument.

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As the result of launching the Block command:

- the risk-monitored entity is not logged off. All incoming messages on the selected instrument are rejected (new orders, order cancellation, order modification etc.). Please note that the Mass Cancel message will always remain available to the risk-monitored entity;
- the risk-monitored entity will be notified through its trading interface (SBE or FIX) that it has been blocked on an instrument. A specific error code will be provided for new incoming messages on that instrument;
- trading in other instruments is not impacted;
- if the optional 'purge flag' is explicitly set to active by the Risk Member, all open orders belonging to the risk-monitored entity (including GTCs, GTDs) on the instrument are deleted. The risk-monitored entity will receive specific pull notification messages, which will also be disseminated via the available Drop Copy services (Drop Copy Members and Third Parties).

The risk-monitored entity is excluded from trading in the instrument until the Risk Manager explicitly reinstates it through the 'Unblock' action.

As the result of the 'Unblock' action, the Risk-monitored entity is notified of its 'Unblocked' status. It can resubmit orders in the instrument.

The Block / Unblock command:

- when triggered by a RiskGuard Clearer: can be triggered on any instrument belonging to the Membership authorisations for which there is a clearing agreement between the GCM and the NCM, for the relevant Optiq segment;
- when triggered by a RiskGuard Member: can be triggered on any instrument belonging to the Membership authorisations of the risk-monitored entity, for the relevant Optiq segment.

2.3 UNPRICED ORDERS RESTRICTION FUNCTIONALITY

The **Unpriced Orders Restriction** command allows Risk Managers to block the possibility for a risk-monitored entity to submit unpriced orders (as defined below). This restriction can be independently activated for unpriced orders sent:

- during continuous trading, and/or;
- during call phases.

The Unpriced Orders Restriction, when submitted, has immediate effect and it is persistent, meaning that it will not be automatically lifted at the end of the trading day. If blocked on day T and not unblocked during the day, the Risk-monitored entity will not be able to send unpriced orders at start of T+1.

It is possible to trigger the Unpriced Orders Restriction on a FirmID or a Logical Access, as described in paragraph 3.2.

The activation of the Unpriced Orders Restriction blocks the submission of the following order types:

- Market orders;
- Stop market orders;
- Dark Sweep orders, when inserted without a limit price.

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Any other order is accepted, including for example an unpriced 'Pure' Dark order, or market to limit orders. Blocked orders are immediately rejected, at reception by the trading system[3].

Risk Managers must note that:

- by default, a new Risk Monitored Entity will be able to send unpriced orders. It is responsibility of a Risk Manager to activate an Unpriced Orders Restriction whenever deemed appropriate;
- in case an unpriced order: (i) is accepted by the trading system and (ii) it remains unexecuted (even partially) so that its remaining quantity is then moved into another trading phase where the Unpriced Orders Restriction is active, its residual will not be removed at the start of that trading phase.

The Unpriced Orders Restriction command:

- when triggered by a RiskGuard Clearer: applies to all Membership authorisations for which there is a clearing agreement between the GCM and the NCM, for the relevant Optiq segment;
- when triggered by a RiskGuard Member: applies to all Membership authorisations of the risk-monitored entity, for the relevant Optiq segment.

2.4 ORDER AMOUNT LIMIT FUNCTIONALITY

The **'Order Amount Limit'** (OAL) allows Risk Managers to define the *maximum order value* allowed for incoming messages from the risk-monitored entity (new orders and order modifications).

The limit is expressed in monetary value (in the trading currency of the instrument) and applies only to orders entered in the central order book (EMM = 1).

In the case that the order value in the incoming message (new order or order modification) breaches the defined limit for the instrument, it is rejected.

The OAL limit can be submitted in two ways:

- specifying an Instrument ID ('Instrument-specific' OAL command): in this case, one RiskGuard command must be sent for each instrument where the OAL limit must be activated / deactivated, or
- as a 'Global' OAL command, without indicating an Instrument ID: in this case, the OAL limit defined in the command will be applied to all instruments that the Risk-Monitored Entity is authorised to trade, under the control of the Risk Manager. This functionality is available only in the context of Sponsored Access services (so, the 'global' OAL command can be submitted only by a Sponsoring Firm) and only at Firm ID level.

For each instrument, the latest OAL between Global and Instrument-specific, as defined by the Risk Manager, will be effective.

[3] For a stop market order, this means that the order will be rejected independently by the triggering of the stop condition.

Example - for Firm ID 'ABC':

- A Sponsoring Firm sets an OAL limit of 10,000 Euro (€) for the instrument identified by SymbolIndex '123';
- Later on, the Sponsoring Firm sends a 'global' OAL command with an OAL limit of 5,000 Euro (€):
  - ⇨ The limit of 5,000 Euro (€) will apply to FirmID ABC on all available instruments, including SymbolIndex '123'.
- The Sponsoring Firm then sets an OAL limit of 20,000 Euro (€) for the SymbolIndex '123';
  - ⇨ The limit of 20,000 Euro (€) will apply to SymbolIndex '123'. For all other available instruments available for trading to Firm ID 'ABC' , the limit will remain at 5.000 Euro (€).
- The Sponsoring Firm then removes the OAL limit for SymbolIndex '123';
  - ⇨ The "global" limit of 5,000 Euro (€) will apply to SymbolIndex '123'.

The OAL can be defined at FirmID level or at Firm ID + Logical Access level, as described in paragraph 3.2.

For the purposes of the OAL control, the size of the incoming message is calculated as follows:

- for Cash instruments and Fixed Income instruments that are traded in units (shares, ETFs etc.):
  - Quantity * Price
- for Fixed Income instruments traded in percentage:
  - (Quantity * Price * PoolFactor) / 100

where:

(i) **'Price'** is defined according to the table below;

(ii) **'DCRP (Dynamic Collar Reference Price)'** indicates the last trade price for the day or, where no trade happened in the current day, the Last Adjusted Closing Price;

(iii) **'Quantity'** includes the hidden part for iceberg orders; and

(iv) **'PoolFactor'** represents an adjustment for those bonds that have reimbursed part of their notional.

Order Type	Side	Price
Limit / Iceberg	Buy	Min (Limit Price, DCRP)
	Sell	Max (Limit Price, DCRP)
Stop Limit	Buy	Min (Limit Price, Trigger price)
	Sell	Max (Limit Price, Trigger price)
Market / MTL	Buy & Sell	DCRP
Stop Market	Sell & Sell	Trigger price

Guaranteed cross and guaranteed principal trades are checked against their pre-agreed price.

Orders with time parameters 'valid for uncrossing' and 'valid for closing uncrossing' are validated at order entry i.e. when the order is received by trading system (not when entering the order book).

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The OAL command:

- when triggered by a RiskGuard Clearer: can be set up on any instrument belonging to the Membership authorisations for which there is a clearing agreement between the GCM and the NCM, for the relevant Optiq segment;
- when triggered by a RiskGuard Member: can be set up on any instrument belonging to the Membership authorisations of the risk-monitored entity, for the relevant Optiq segment.

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3. KEY FEATURES OF THE RISKGUARD CASH SERVICE

3.1 SERVICE AVAILABILITY

All RiskGuard commands are:

- accepted during suspensions, reservations and in the 'Close' phase;
- rejected during the 'Inaccessible phase' ('ErrorCode' set to "2194 - Request forbidden as the book is Inaccessible") and while the status of a given Optiq partition is set to 'Halted' ('ErrorCode' set to "2250 - Request forbidden as the book is Halted").

3.2 RISKGUARD COMMANDS: AVAILABLE GRANULARITIES

All RiskGuard commands must be submitted for a specific FirmID.

In addition, Risk Managers can trigger a RiskGuard command at additional levels of granularity[4], such as ExecutionWithinFirmShortCode, ClientIdentificationShortCode or Logical Access, as follows.

Available granularities for the RiskGuard commands

FirmID	Additional granularities	Suspend/ unsuspend (kill switch)	Block/ unblock	Unpriced orders restriction	OAL
Firm ID +	ExecutionWithinFirmShortCode	√	√	-	-
	ClientIdentificationShortCode	√	√	-	-
	Logical Access	√	√	√	√[5]

The RiskGuard command will apply only to orders belonging to the selected FirmID and the additional identifier. For example, in the case that a Kill Switch command is submitted (with 'Purge' option selected):

- with reference to FirmID '001' only (no additional granularity specified), all resting orders from this FirmID will be deleted, and all new messages from this FirmID will be rejected at order entry. This will apply to all messages from any Logical Accesses, with any ExecutionWithinFirmShortCode or any ClientIdentificationShortCode;
- on FirmID '001' AND with reference to Logical Access '123', only resting orders deriving from FirmID '001' and Logical Access '123' will be deleted, and new messages from this FirmID and Logical Access will be rejected at order entry. This will apply to messages with any ExecutionWithinFirmShortCode or any ClientIdentificationShortCode;
- on FirmID '001' AND with ExecutionWithinFirmShortCode '567', only resting orders deriving from FirmID '001' and with ExecutionWithinFirmShortCode '567' will be deleted, and only new messages from this FirmID and ExecutionWithinFirmShortCode will be rejected at order

[4] In the ERG Command (U68), granularities are specified using the following fields: TargetFirmID, TargetPartyID (for the 'ExecutionWithinFirmShortCode' granularity), TargetClientShortCode (for the 'ClientIdentificationShortCode granularity), and TargetLogicalAccessID.

[5] Not available for the 'global' OAL command.

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entry. This will apply to orders from any Logical Access, and with any ClientIdentificationShortCode.

The three additional granularity levels are alternatives; only one can be specified in the ERG Command (U68) message. Otherwise, the message is rejected.

Please note that in the case that a Logical Access is suspended or blocked, all FirmIDs that may enter messages through that Logical Access are subject to the suspension or block.

3.3 RISKGUARD COMMANDS: MULTIPLE RISK MANAGERS

RiskGuard always takes into account the most restrictive setting defined across all Risk Managers for the same risk-monitored entity. This means that:

- In the case that multiple Risk Managers have set the same restriction (Suspension / Block / Unpriced Orders Restriction / Order Amount Limit) for the same FirmID – or combination of FirmID + additional granularity level – all restrictions applicable at such level must be lifted in order to disable such restriction;
- In the case that multiple Risk Managers have set up an OAL limit for the same FirmID, Logical Access etc., RiskGuard will always take into account the most restrictive limit.

Example:

- A RiskGuard Clearer sets an OAL limit of 10,000 Euro (€) for the instrument identified by SymbolIndex '123', for FirmID ABC;
- A RiskGuard Member sets an OAL limit of 15,000 Euro (€) for the instrument identified by SymbolIndex '123', for FirmID ABC.
  - ⇨ The limit of 10,000 Euro (€) set by the RiskGuard Member will apply to FirmID ABC.

3.4 RiskGuard events and related technical messages

3.4.1 RiskGuard command triggered by a Risk Manager

All RiskGuard commands can be activated / deactivated by the Risk Manager using the **ERGCommand (U68)** message available on the Optiq OEG FIX 5.0 protocol.

For full details regarding the structure of the ERGCommand (U68) message, and a description of the message tags to activate or deactivate each RiskGuard commands, please refer to the Euronext OEG FIX specifications. Some sample kinematics are reported in Appendix B.

Confirmation that the request has been accepted or rejected is immediately provided back to the Risk Manager:

- if accepted, with the **ERGCommandAck (U69)** with AckStatus (5711) set to '0' (Accept);
- if rejected for functional reasons, with the ERGCommandAck (U69) with AckStatus (5711) set to '1' (Reject);
- if rejected for technical reasons, with Reject (3) message with specific error codes.

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Please refer to the document *'Euronext Markets - Optiq & TCS Error list file'* for the list of dedicated RiskGuard rejection codes.

As soon as an ERGCommand (U68) message is accepted by the system and the command is triggered on a risk-monitored entity, the risk-monitored entity is notified by the system with the **UserNotification** message (FIX: UserNotification (CB); SBE: UserNotification (39)). The **User Notification** (39) (FIX CB) message is sent to all OE Sessions on which the risk-monitored entity is connected, for the given Optiq Segment[6].

Additional details on the available notification reasons are reported in Appendix A.

When a 'global' OAL command is sent by a Sponsoring Firm (this command will set the same OAL for all instruments that the Risk-managed entity is entitled to trade), only one UserNotification message will be disseminated, with fields related to the instrument ID equal to NULL.

3.4.2 Suspend and Block commands: purged orders

In the case that the Suspend or Block commands are triggered by the Risk Manager with 'Purge' option selected, a cancellation message (SBE: Kill (05); FIX: ExecutionReport (8)) for each purged resting order is returned to the risk-monitored entity, with dedicated cancellation reasons.

	SBE: Kill (05)	**FIX: ExecutionReport (8)**	
	Kill Reason	ExecType (Tag 150)	OrdStatus (Tag 39)
Order cancelled by Clearing risk manager	24	P	4
Order cancelled by Member risk manager	25	v	4

3.4.3 Rejection of incoming messages

Incoming messages that are rejected due to an active RiskGuard command (Suspend, Block, Unpriced Orders Restriction or breach of OAL) will have a dedicated rejection reason in field 'Error Code' of the OEG SBE **Reject (07)** message (FIX 8).

Please refer to the document *'Euronext Markets - Optiq & TCS Error list file'* for the list of RiskGuard dedicated rejection codes.

3.4.4 Retrieving the active RiskGuard controls

Risk Managers can retrieve the latest status of their active RiskGuard controls using the FIX **GetRiskControls** (U70) message. Current settings are provided back to the Risk Manager with message **RiskControlDetails** (U71).

[6] Please note that, as an exception to this general system behaviour, no UserNotification message will be disseminated for the automatic suspension triggered directly by the trading system on Sponsored Access clients at the end of each trading day, as described in paragraph 3.5.

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The Risk Manager can use the GetRiskControls (U70) message to selectively retrieve the current status for:

- one specific command at a given granularity level; or
- all submitted commands at a given granularity level.

A repeating section of the RiskControlDetails (U71) message will provide details of each current RiskGuard setting within the perimeter of the request.

In the case of requests referring to a FirmID, the status of the active commands at broader level of granularity is also provided. In the case that the request is for a level of granularity where there are no active commands, the request will be rejected with error code "1521 – No ERG command has been set".

Example: A Risk Manager initially suspended FirmID 'ABC' on Logical Access '123', and then sent a second 'Suspend' message for the whole FirmID 'ABC'. The Risk Manager requires an update on the current status of FirmID 'ABC', for all RiskGuard commands. In the RiskControlDetails (U71) message, two occurrences will be provided:

- the first to signal that Firm ID 'ABC' is currently suspended;
- the second to signal that Logical Access '123' for FirmID 'ABC' is also currently suspended.

This means that the two controls will have to be revoked separately before FirmID 'ABC' can fully retrieve an Unsuspended status.

In case of multiple Risk Managers, a Risk Manager is only provided with the details of the actions triggered personally by the Risk Manager.

3.5 AUTO KILL SWITCH ON DROP COPY DISCONNECTION

In the case of Sponsored Access services, a Kill Switch command will be automatically triggered in the case that the Risk Member gets disconnected from a Drop Copy associated to a Risk-monitored entity (**"Auto Kill Switch on Drop Copy disconnection"** functionality – hereinafter, the "Auto Kill Switch"). The "Auto Kill Switch" functionality is designed to avoid a Risk-monitored entity being able to send orders into Optiq when its Risk Member is not connected to the corresponding Sponsored Drop Copy.

When the "Auto Kill Switch" is triggered, all resting orders previously inserted with the FirmID of the Risk-monitored entity will be purged, and the Risk-monitored entity will be suspended, as described in paragraph 2.1.

The Risk-monitored entity will not be able to submit orders until: (i) the Risk Member successfully re-connects to the Drop Copy, or (ii) the FirmID of the Risk-monitored entity has been 'Unsuspended', by the Risk Manager, directly or using the 'On-behalf' functionality.

The "Auto Kill Switch" mechanism will also be triggered in the case that the Risk Member voluntarily disconnects from the Sponsored Drop Copy.

In order to avoid the Risk-monitored entity being able to send orders into Optiq when its Risk Member is not connected to the corresponding Sponsored Drop Copy, the status of a Risk-monitored entity will be automatically set to 'Suspended' at the end of each trading day (during the Optiq post-close session) and all its resting orders will be cancelled. The Risk-monitored

entity's status will be automatically set to 'Unsuspended' on the next trading day when its Risk Member successfully reconnects to the corresponding Sponsored Drop Copy[7].

Rate of Triggering

Similarly to the Cancel-on-Disconnect mechanism in place on Optiq®, the Auto Kill Switch functionality is triggered as soon as the disconnection is submitted by the client or triggered by other detection of disconnection. As soon as the disconnection is identified, the Auto Kill Switch is triggered.

The detection of a client disconnection will depend on the activity on the associated Drop Copy session and maximum delay (measured in "n" seconds[8]) assigned to the Optiq Segment for the TestRequest / Heartbeat mechanism. For Drop Copy channels, the maximum delay is currently set at 30 seconds.

The behaviour for check and validation of continued connection is done in two steps:

(1) TestRequest issued after inactivity that lasts at maximum for the period of delay "n", followed by

(2) wait for the Heartbeat response, also, at maximum, lasting for the time period "n" defined for the delay.

Based on the behaviour for the connection check, the maximum period for detection of disconnection is between zero seconds and twice the maximum delay assigned to the Optiq Segment (1 minute).

3.6 OTHER FEATURES

In the case that the command is sent on a segment which is cross-partition, and for some technical reason one or several (but not all) partitions are halted and/or in Inaccessible status, the command will be accepted and will affect the partitions that are not currently halted.

[7] This "Unsuspend" command will override all previous "Suspend" commands: (i) triggered automatically by the trading system, or (ii) sent by the Risk Member (directly via the FIX protocol, on indirectly by Euronext Market Operations, on request of the Risk Member, using the "On behalf" service). Suspensions triggered by Euronext Market Supervision will remain in place.

[8] The value n defined for the processes associated with the TestRequest and Heartbeat messages is specified in the 'Euronext Cash Markets - Optiq OEG Connectivity Configuration Specifications' document and is defined per Optiq Segment.

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APPENDIX A: USER STATUS NOTIFICATION

The field 'User Status' in the **User Notification** (39) message (FIX: UserNotification (CB) message) received by a risk-controlled entity provides information on the nature of the action taken by Risk Manager (Suspend / Unsuspend; Block / Unblock; Unpriced Orders Restriction activated/deactivated, OAL activated/deactivated).

This message also contains, in separate fields:

- information regarding the FirmID and/or Logical Access, ExecutionWithinFirmShortCode or ClientIdentificationShortCode on which the action has been triggered;
- for the Unpriced Orders Restriction command, information regarding the trading phase for which the restriction has been activated /deactivated are reported in field "Market Condition" (FIX tag 21823).

Command	Granularity	User Status - SBE (FIX) codes
Suspend / Unsuspend (Kill Switch)	FirmID + ExecutionWithinFirmShortCode	13 (113) = Trader-Algo Suspended by Risk Manager 14 (114) = Trader-Algo Unsuspended by Risk Manager
	FirmID	15 (115) = Firm Suspended by Risk Manager 16 (116) = Firm Unsuspended by Risk Manager
	FirmID + ClientIdentificationShortCode	17 (117) = DEA Suspended by Risk Manager 18 (118) = DEA Unsuspended by Risk Manager
	FirmID + LogicalAccess	19 (119) = Logical Access Suspended by Risk Manager 20 (120) = Logical Access Unsuspended by Risk Manager
Block / Unblock	FirmID + ExecutionWithinFirmShortCode	21 (121) = Trader-Algo Blocked by Risk Manager 22 (122) = Trader-Algo Unblocked by Risk Manager
	FirmID	23 (123) = Firm Blocked by Risk Manager 24 (124) = Firm Unblocked by Risk Manager
	FirmID + ClientIdentificationShortCode	25 (125) = DEA Blocked by Risk Manager 26 (126) = DEA Unblocked by Risk Manager
	FirmID + LogicalAccess	27 (127) = Logical Access Blocked by Risk Manager 28 (128) = Logical Access Unblocked by Risk Manager
Unpriced Orders Restriction	FirmID	42 (142) = UOR activated by Risk Manager 43 (143) = UOR deactivated by Risk Manager
	FirmID + LogicalAccess	44 (144) = UOR activated for a Logical Access by Risk Manager 45 (145) = UOR deactivated for a Logical Access by Risk Manager
OAL	FirmID	31 (131) = Order Amount Limit Activated for a Firm by Risk Manager 32 (132) = Order Amount Limit Deactivated for a Firm by Risk Manager
	FirmID + Logical Access[9]	33 (133) = OAL Activated for a Logical Access by Risk Manager 34 (134) = OAL deactivated for a Logical Access by Risk Manager

[9] Not available for the 'global' OAL message.

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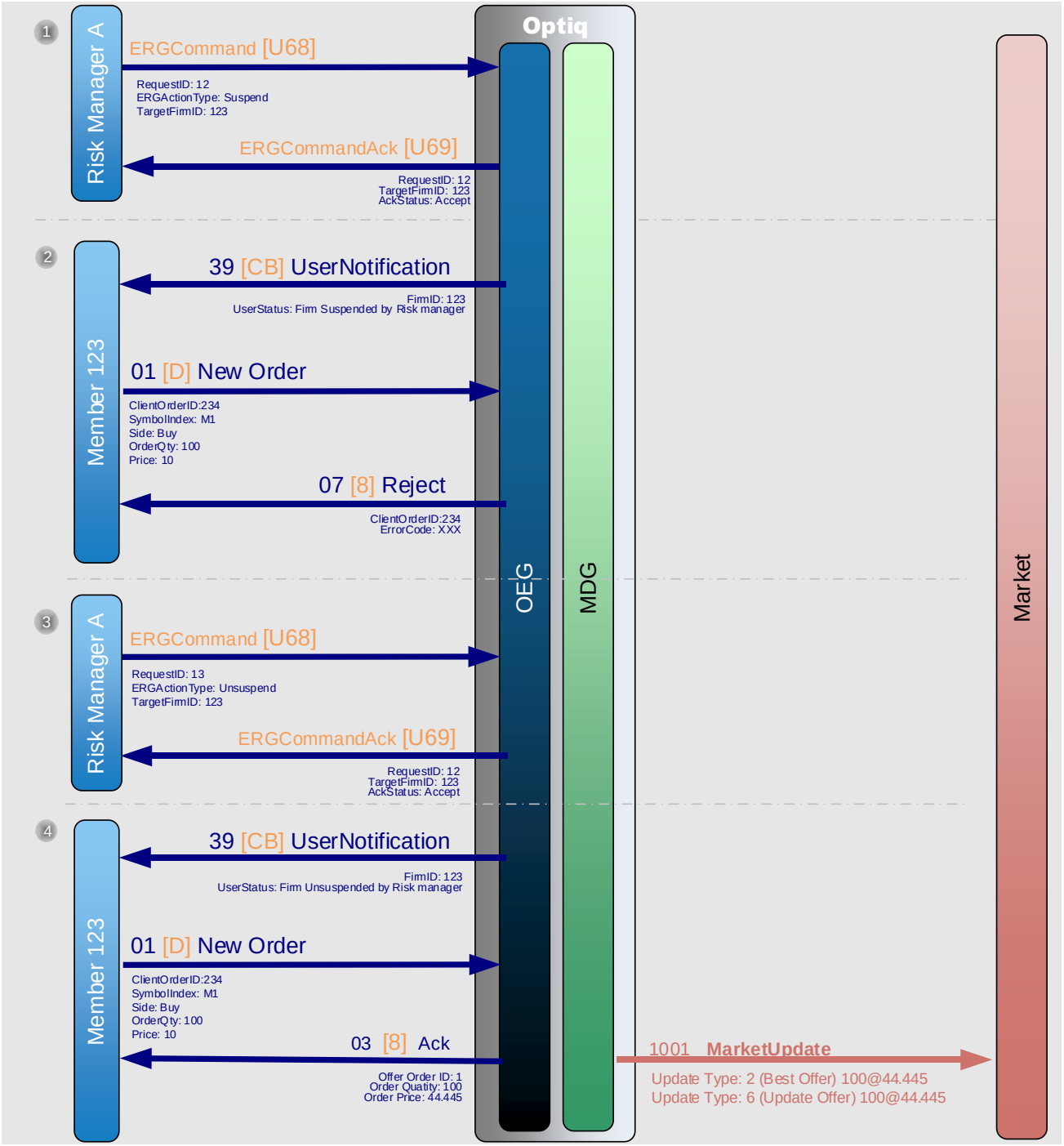
APPENDIX B: KINEMATICS

B.1.1 Kinematics: Suspend / Unsuspend command



Both the Risk Manager A and a Member (using FirmID '123') are logged into the Equities segment. Risk Manager A is set up as the Risk Manager for the FirmID '123'.

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① Risk Manager A sends an **ERGCommand** (U68) message to suspend FirmID '123' (identifier provided within the 'TargetFirmID' field). OEG sends back a private **ERGCommandAck** (U69) message to confirm the successful receipt and technical processing of the message. Risk Manager A submits the command with 'purge' option = False, so resting orders for FirmID '123' remain in the order book.

② The Member is notified of the suspension via **User Notification** (39) (FIX CB) message.

As the suspension was done without cancellation of orders, no other messages are sent to the Member at this moment. No messages are sent to the market.

The Member sends a **New Order** (01) (FIX D) message. As the status of its FirmID is 'suspended', the message is rejected. OEG sends back a private **Reject** (07) (FIX 8) message to reject the creation of the new order with an Error Code.

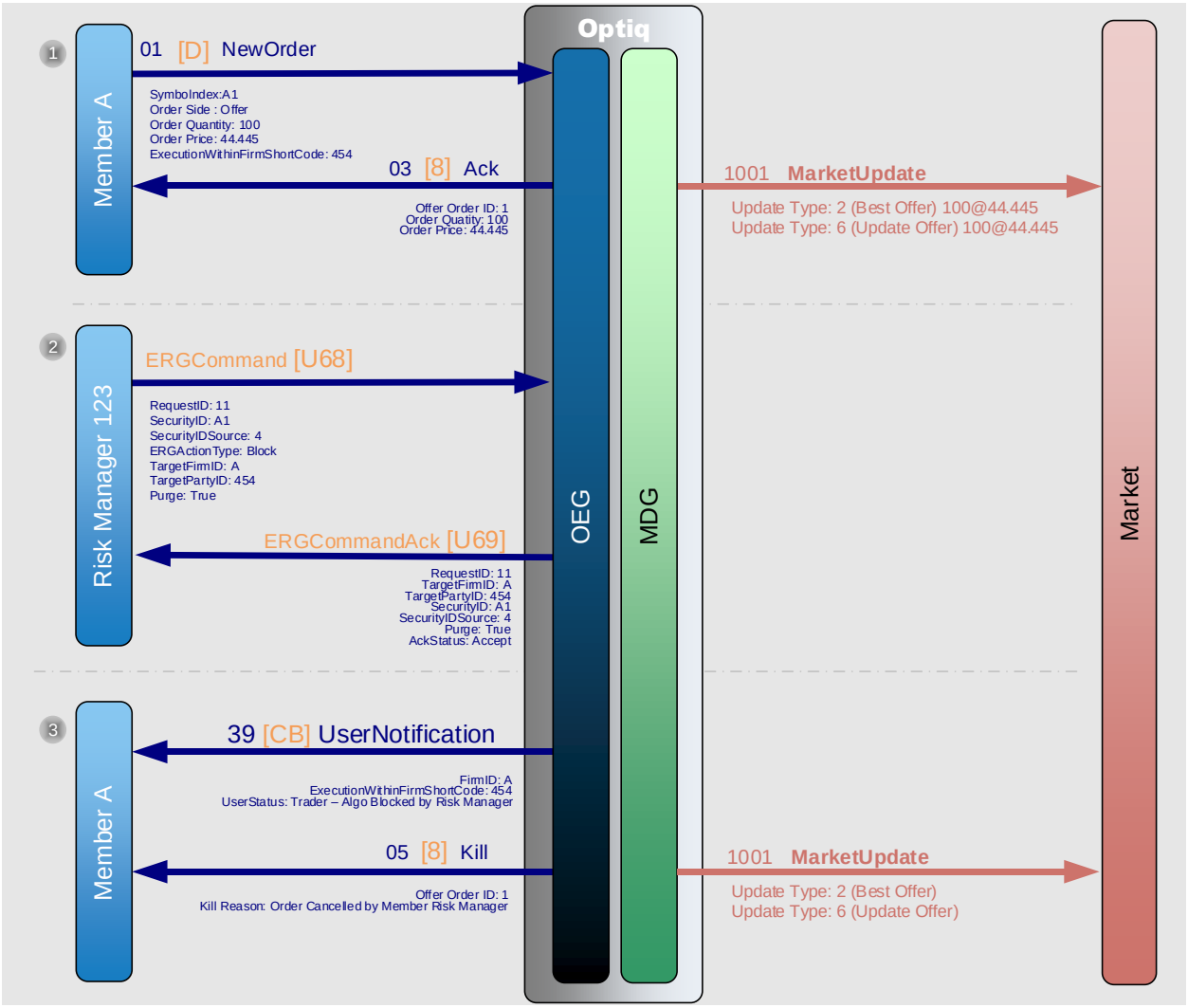
The reason for the rejection can be found using the Error Code value within the document "*Euronext Markets – Optiq & TCS Error list file"*.

③ Risk Manager A sends an **ERGCommand** (U68) message to request the Unsuspension of the FirmID (identifier provided within the 'TargetFirmID' field). OEG sends back a private **ERGCommandAck** (U69) message to confirm the successful receipt and technical processing of the message.

④ The Member is notified of the unsuspension through **User Notification** (39) (FIX CB) message.

Upon submission of a **New Order** (01) (FIX D) message, OEG sends back a private **Ack** (03) (FIX 8) message to confirm the successful receipt and technical processing of the order.

B.1.2 Kinematics: Block command



Both the Risk Manager '123' and a Member (using FirmID 'A') are logged into the Equities segment. Risk Manager '123' is set up as the Risk Manager for the FirmID 'A'.

① The Member submits a **NewOrder** (01) (FIX D) message. OEG sends back a private **Ack** (03) (FIX 8) message to confirm the successful receipt and technical processing of the order. The order enters the order book without matching and a public **MarketUpdate** (1001) message is sent to the market to update the limit.

② The Risk Manager '123' sends an **ERGCommand** (U68) message to block for example a Trader or an Algorithm identified by the Short Code '454' (provided within the 'TargetPartyID' field) managed by the member firm 'A' (provided within the 'TargetFirmID' field), on a specific instrument A1 (provided within the 'SecurityID' field), selecting to cancel all of the active orders in the book for this action ('purge' = True).

OEG sends back a private **ERGCommandAck** (U69) message to confirm the successful receipt and technical processing of the message.

③ OEG then sends a private **UserNotification** (39) (FIX CB) message to notify that the identified trader/ algorithm '454' is currently blocked for instrument A1.

OEG sends back a private **Kill** (05) (FIX 8) message to notify the Member of the cancellation of the active order in the book for the combination of the identified

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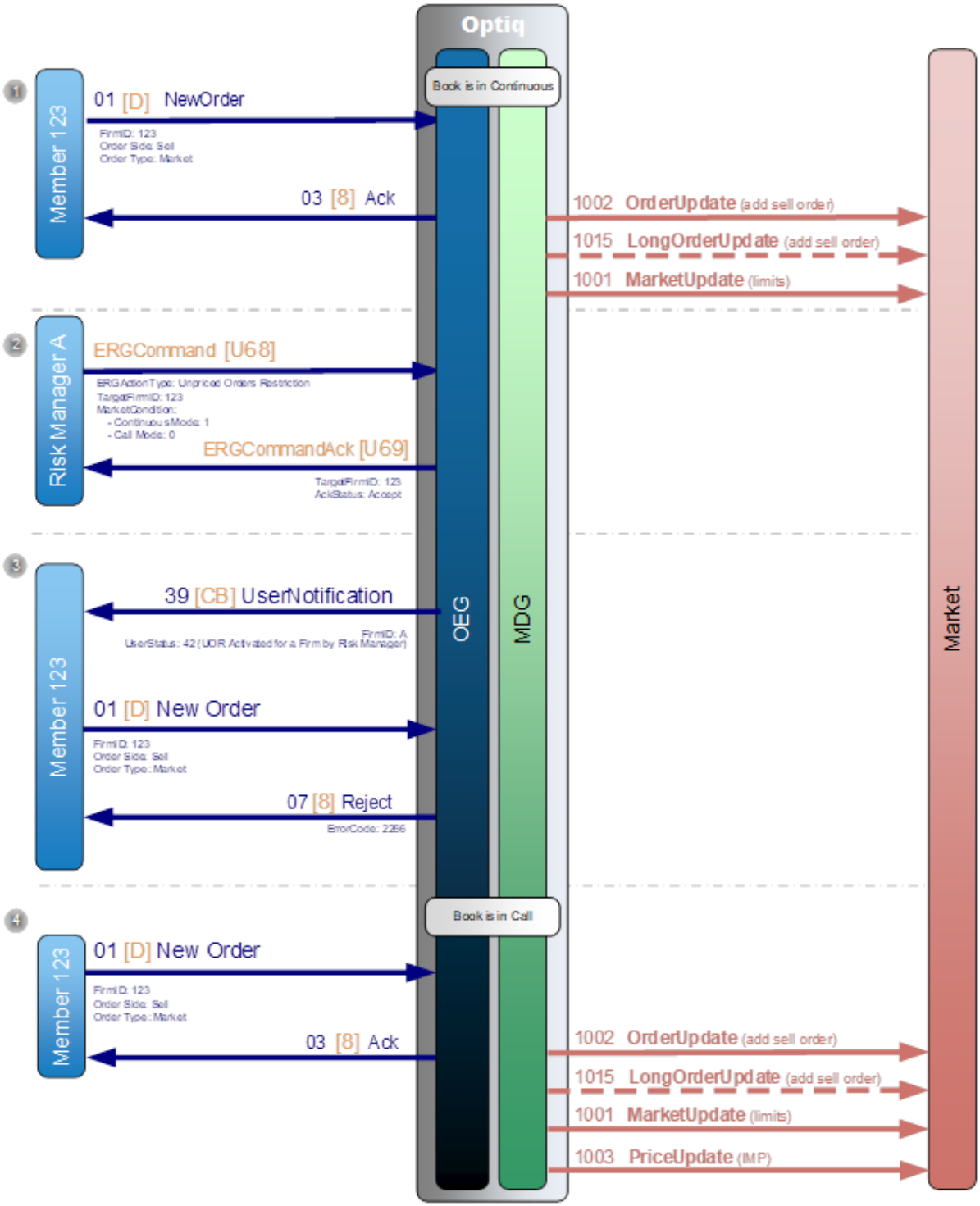
TargetFirmID + TargetPartyID. Only the OE session that owns the order receives the message of the order cancellation.

A public **MarketUpdate** (1001) message is sent to the market to update the limits.

B.1.3 Kinematics: Unpriced Orders Restriction



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Both the Risk Manager 'A' and a Member (using FirmID '123') are logged into the Equities segment. Risk Manager 'A' is set up as the Risk Manager for the FirmID '123'.

① The instrument in in continuous trading. FirmID '123' sends a market order with a NewOrder (01) (FIX D) message. OEG sends back a private **Ack** (03) (FIX 8) message to confirm the successful receipt of the order. The market order enters the order book without matching and the related MDG messages are sent to the market.

② The Risk Manager sends then an **ERGCommand** (U68) message to forbid the submission of unpriced orders (using tag 21097 'ERGActionType' equal to 8) for FirmID '123' (provided within the 'TargetFirmID' field), for continuous trading only (using tag 21823 'MarketCondition' equal to '10').

Note: tag "MarketCondition" can be populated as follows:

- Position 1: '1' to activate the restriction for continuous trading; '0' to deactivate;
- Position 2: '1' to activate the restriction for call phases; '0' to deactivate.

OEG sends back a private **ERGCommandAck** (U69) message to confirm the successful receipt and technical processing of the message.

③ OEG then sends a private **UserNotification** (39) (FIX CB) message to notify FirmID '123' that their submission of unpriced orders has been blocked by its Risk Manager.

When FirmID '123' sends another market order with a NewOrder (01) (FIX D) message, OEG sends now back a private **Reject** (07) (FIX 8) message to reject the creation of the new order with a dedicated Error Code 2266 "Rejected due to Breach of Unpriced Orders Restriction".

④ The instrument has now moved into a call phase. FirmID '123' sends another market order with a **NewOrder** (01) (FIX D) message. Given that the Unpriced Orders Restriction has been activated by the Risk Manager only for Continuous mode, OEG sends now back a private **Ack** (03) (FIX 8) message to confirm the successful receipt of the new order. The related MDG messages are disseminated to the market.

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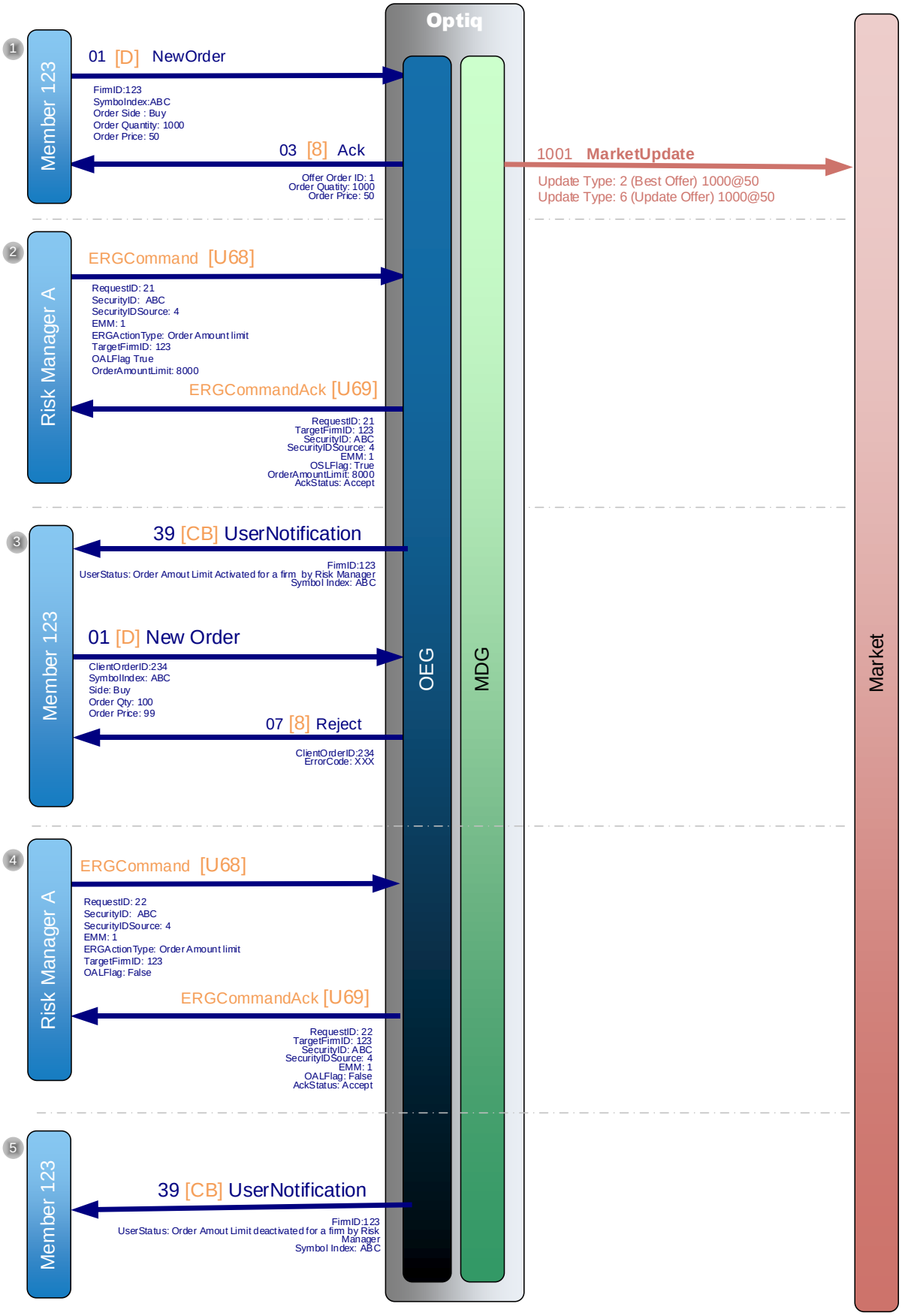
B.1.4 Kinematics: Order Amount Limit command (instrument-specific)



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Both the Risk Manager 'A' and a Member (using FirmID '123') are logged into the Equities segment. Risk Manager 'A' is set up as the Risk Manager for the FirmID '123'.

① The Member submits a **NewOrder** (01) (FIX D) message. OEG sends back a private **Ack** (03) (FIX 8) message to confirm the successful receipt and technical processing of the order.

The order enters the order book without matching and a public **MarketUpdate** (1001) message is sent to the market to update the limit.

② Risk Manager 'A' sends an **ERGCommand** (U68) message to set a maximum order value limit of 10,000 Euro (€) (using the field 'OALflag' = '1' to activate the control, and the 'OrderAmountLimit' field to define the value of the limit) for instrument 'ABC' (identifier provided within the 'SecurityID' field) for FirmID '123' (identifier provided within the 'TargetFirmID' field). OEG sends back a private **ERGCommandAck** (U69) message to confirm the successful receipt and technical processing of the message.

③ The Member is notified of the limit via **User Notification** (39) (FIX CB) message.

As the OAL command does not have any impact on the orders that are resting in the order book, no other messages are sent to the Member at this moment. No messages are sent to the market.

The Member sends a **New Order** (01) (FIX D) message to sell instrument ABC, with limit price or euro 99 and quantity 100. The DCRP for instrument ABC when the message is received by the system is of euro 101. As the value of the incoming order is equal to 10,100 (quantity * max [limit price; DCRP]), the message is rejected. OEG sends back a private **Reject** (07) (FIX 8) message to reject the creation of the new order with an Error Code.

The reason of the rejection can be found using the Error Code value within the "*Euronext Markets - Optiq & TCS Error list file"*.

④ Risk Manager 'A' sends an **ERGCommand** (U68) message to de-activate the order amount limit (using field OALflag with value '0') for instrument ABC (identifier provided within the 'SecurityID' field) for FirmID '123' (identifier provided within the 'TargetFirmID' field). It is not required to specify the amount of the limit. OEG sends back a private **ERGCommandAck** (U69) message to confirm the successful receipt and technical processing of the message.

⑤ The Member is notified of the de-activation of the control limit via **User Notification** (39) (FIX CB) message.

From this moment – unless a "global" OAL has been previously defined for FirmID '123' - no OAL control is applied to incoming messages by FirmID '123' on instrument ABC.

APPENDIX C: ACCESS TO RISKGUARD CASH

In order to access the Euronext RiskGuard service for the Cash Markets:

- **Step 1**. All Euronext RiskGuard Participants must sign a **'Risk Management Services Agreement'** with Euronext.

- **Step 2**. Clearing Members and Euronext Trading Members are also required to sign a **'Statement of Authority'** allowing the Risk Managers to access and use the Risk Management Services.
  - If a Euronext Trading Member wishes to make use of Euronext RiskGuard to self-monitor the risk of its firm, it must sign the '**Statement of Authority to be signed by a Member in respect of its business executed on the Euronext markets'**;
  - If a Clearing Member (GCM) wishes to make use of Euronext RiskGuard in respect of a Member for which it provides clearing services, the Clearing Member and the Member are required to sign together the **'Statement of Authority to be signed by a Trading Member and its relevant Clearing Member on the Euronext Markets'**.

In order to implement Sponsored Access services, RiskGuard Participants must sign a **"Sponsored Access Application Form"**, which will be made available on the Euronext website in due course.

In the onboarding process for Sponsored Access, the RiskGuard Participant will be required to set up dedicated FirmIDs and Logical Accesses to segregate the trading activity of the Sponsored Participant, as well as (on the choice of the client) dedicated Drop Copy channels to monitor in real time the trading activity of the Sponsored Participant – including the activation of the "Auto Kill Switch" functionality described in paragraph 3.5.

These completed and duly signed documents must be returned to: EuronextMembership@euronext.com.

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