Document title

EURONEXT RISKGUARD – CASH MARKETS

Document type or subject

How the service works

Version number

1.0

Date

31 July 2022

Number of pages

21

Author

Euronext

This publication is for information purposes only and is not a recommendation to engage in investment activities. This publication is provided "as is" without representation or warranty of any kind. Whilst all reasonable care has been taken to ensure the accuracy of the content, Euronext does not guarantee its accuracy or completeness. Euronext will not be held liable for any loss or damages of any nature ensuing from using, trusting or acting on information provided. No information set out or referred to in this publication shall form the basis of any contract. The creation of rights and obligations in respect of financial products that are traded on the exchanges operated by Euronext's subsidiaries shall depend solely on the applicable rules of the market operator. All proprietary rights and interest in or connected with this publication shall vest in Euronext. No part of it may be redistributed or reproduced in any form without the prior written permission of Euronext. All data as of the date of publication unless stated otherwise. Euronext disclaims any duty to update this information. Euronext refers to Euronext N.V. and its affiliates. Information regarding trademarks and intellectual property rights of Euronext is located at www.euronext.com/terms-use.

© 2022, Euronext N.V. - All rights reserved.

PREFACE

PURPOSE

Euronext RiskGuard for Cash markets is the Euronext pre-trade risk management service, providing Risk Managers at Clearing or Trading Member firms of Euronext 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 DMA clients.

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 on top of 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 firms or General Clearing Members 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, which 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
- Euronext Markets - Optiq® & TCS Error list file
- RiskGuard – FAQs
- Conformance Script RiskGuard v 1.1

© 2019 Euronext N.V. - All rights reserved.

CONTACTS

For further information about this document or RiskGuard service, please contact:

- Your Euronext Relationship Manager or the Global Sales team at globalsales@euronext.com
- For access to the service, the Euronext Membership team at EuronextMembership@euronext.com
- For any functional queries related to the service or for testing assistance, the Euronext Operational Client Service team

  Available 06:30-22:30 CET

  Telephone:

  France: +33 1 8514 8585
  The Netherlands: +31 20 721 9585
  Italy: +39 02 45411399
  UK: +44 20 7660 8585
  Belgium: +32 2 620 0585
  Portugal: +351 2 1060 8585

WHAT'S NEW?

VERSION NO.	DATE	AUTHOR	CHANGE DESCRIPTION
1.0	31 July 2022		Initial version

© 2019 Euronext N.V. - All rights reserved.

CONTENTS

1. OVERVIEW 5
1.1 Key Concepts 5
2. RISKGUARD COMMANDS 7
2.1 Suspend / Unsuspend (kill switch) functionality 7
2.2 Block / unblock Functionality 7
2.3 Order Amount Limit functionality 8
2.4 Maximum Exposure Position (MEP, for future implementation) 9
3. KEY FEATURES OF THE RISKGUARD CASH SERVICE 10
3.1 Service availability 10
3.2 RiskGuard commands: available granularities 10
3.3 RiskGuard commands: multiple risk managers 11
3.4 RiskGuard events and related technical messages 11
3.4.1 RiskGuard command triggered by a Risk Manager 11
3.4.2 Suspend and Block commands: Purged Orders 12
3.4.3 Rejection of incoming messages 12
3.4.4 Retrieving the active RiskGuard controls 12
3.5 Other features 13
4. APPENDIX A – USER STATUS NOTIFICATION 14
5. APPENDIX B – KINEMATICS 15
5.1 Kinematics: Suspend / Unsuspend command 15
5.2 Kinematics: Block command 17
5.3 Kinematics: Order Amount Limit command 19
6. APPENDIX C - ACCESS TO EURONEXT RISKGUARD CASH 21

© 2019 Euronext N.V. - All rights reserved.

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[1]:

- Equities;
- Funds;
- Fixed income;
- Block (with the exclusion of Euronext Block MTF).

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');
- Order Amount Limit (OAL);
- Maximum Exposure Position (MEP) – *for future implementation*[2].

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 to 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".

1.1 KEY CONCEPTS

- **RiskGuard controls.** The Suspend/Unsuspend, Block/Unblock, OAL and MEP 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) or so-called '*RiskGuard Clearer*' in this document;
  - a Non Clearing Member (NCM) or Individual Clearing Member (ICM), or so-called '*RiskGuard Member*' in this document.

  If the Risk Member is a NCM or ICM**,** the Risk Member is said to be risk self-monitoring as he is only allowed to monitor its firm's and client's exposure to Euronext Cash markets. In case the Risk Manager

[1] RiskGuard cash is not covering instruments belonging to the trading groups dedicated to 'direct distribution' services (IPO, takeover bid etc.) in the segments where such services are available.

[2] References to the Maximum Exposure Position (MEP) control are reported in this document to offer a complete view of the features of the Euronext RiskGuard service. The MEP control will be implemented on a future date. Further details will be communicated in due course.

© 2019 Euronext N.V. - All rights reserved.

is using RiskGuard to define pre-trade controls for one of its clients that is directly connected into Optiq, RiskGuard is used to support Sponsored Access services and the Risk Member is also referred to as the "Sponsoring Firm". 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, that has been entitled to setup 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 setup any of the Risk Controls available through RiskGuard.

- **Membership Authorisation**. A Membership Authorisation corresponds to a list of instruments where 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 case the RiskGuard Member is acting as a Sponsor, the set of Membership Authorisations will be defined accordingly to the trading privileges that must be allowed for the Sponsored Client, that 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 case of Sponsored Access services, the risk-monitored entity:
  - is also referred to as 'Sponsored Client';
  - 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 Firm.

- **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 provide access to one Optiq Segment).

- **Optiq FirmID.** An identifier of the technical configuration for a trading participant, allowing to send messages to the trading system. A FirmID is associated, among others, to the rights to trade pre-defined group of instruments in Optiq (each one, being a Membership Authorisation), the related authorised trading capacities, post-trade setup etc. RiskGuard commands must be triggered at the level of a specific FirmID. For a RiskGuard Clearer:
  - in case the controlled NCM or ICM is configured with more than one FirmIDs, 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 on the Sponsored Clients of that NCM / ICM, if he is also acting as a Sponsoring Firm.

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".

© 2019 Euronext N.V. - All rights reserved.

2. RISKGUARD COMMANDS

2.1 SUSPEND / UNSUSPEND (KILL SWITCH) FUNCTIONALITY

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

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 where 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 will be 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, orders cancellation, order modification etc.). Please note that the Mass Cancel message will remain always 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, that 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 the document simply the **'Block'** command) provides Risk Managers the ability to stop trading activity in a specific instrument.

As the result of launching the Block command:

© 2019 Euronext N.V. - All rights reserved.

- the risk-monitored entity is not logged off. All incoming messages on the selected instrument are rejected (new orders, orders cancellation, order modification etc.). Please note that the Mass Cancel message will remain always 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 that 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 their '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 ORDER AMOUNT LIMIT FUNCTIONALITY

The **'Order Amount Limit**' (OAL) provides Risk Managers the ability 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 case 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 is instrument-specific (one RiskGuard command must be sent for each instrument where the OAL limit must be activated / deactivated), and can be defined at FirmID level or at Firm ID + Logical Access level, as described in paragraph 3.23.2.

To 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) **'DRCP'** indicates the last trade price for the day or, where no trade happened in the current day, the Last Adjusted Closing Price, (iii) **'Quantity'**

© 2019 Euronext N.V. - All rights reserved.

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).

The OAL command:

- when triggered by a RiskGuard Clearer: can be setup 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 setup on any instrument belonging to the Membership authorisations of the risk-monitored entity, for the relevant Optiq segment.

2.4 MAXIMUM EXPOSURE POSITION (MEP, FOR FUTURE IMPLEMENTATION)

The **'Maximum Exposure Position'** (MEP) feature will provide Risk Members the ability, via a single command, to prevent their risk-monitored entities from trading beyond a financial limit set in terms of monetary value (in euro) and computed considering open orders and quotes (where applicable), as well as executed trades during the current trading day (including TCS).

It will be possible to define more than one limit, and to configure specific actions to be triggered in case of breach of each pre-configured limit.

The extent of the MEP control will be the Optiq segment, meaning that all instruments within the Membership Authorisations of the risk-monitored entity for that segment will be taken into account and aggregated in order to determine whether a breach has to be triggered.

This feature is for future implementation, further details will be provided in due course.

© 2019 Euronext N.V. - All rights reserved.

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[3], such as ExecutionWithinFirmShortCode, ClientIdentificationShortCode, SourceID (*for future implementation*[4]) or Logical Access, as follows.

Available granularities for the RiskGuard commands

FirmID	Additional granularities	Suspend/ unsuspend (kill switch)	Block/ unblock	OAL
Firm ID +	ExecutionWithinFirmShortCode	√	√	-
	ClientIdentificationShortCode	√	√	-
	Logical Access	√	√	√

Note: the MEP functionality and SourceID granularity are for future implementation and will be added in due course.

The RiskGuard command will apply only to orders belonging to the selected FirmID and the additional identifier. For example, in case 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;

[3] 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.

[4] The 'SourceID' field will be numeric and user-defined, permitting RiskGuard users to identify specific order flows of the controlled entity, in case the ExecutionWithinFirmShortCode, ClientIdentificationShortCode or Logical Access do not allow to reach the desired result. The risk-monitored entity will be required to specify the 'SourceID' information at order entry in a dedicated field. As this feature is fur future implementation, further details will be provided in due course in a new version of this document.

© 2019 Euronext N.V. - All rights reserved.

- 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 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 case 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 case multiple Risk Managers have set the same restriction (Suspension / Block / Order Amount Limit/ MEP) for the same FirmID - or combination of FirmID + additional granularity level - all restrictions applicable to at such level need to be lifted in order to disable such restriction;
- In case multiple Risk Managers have setup an OAL limit (as well as an MEP limit, for future implementation) 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. 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.

© 2019 Euronext N.V. - All rights reserved.

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

As soon 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.

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

3.4.2 Suspend and Block commands: Purged Orders

In case 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, breach of OAL or MEP controls) 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 **RiskControlsDetails** (U71).

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 settings within the perimeter of the request.

In case of requests referring to a FirmID, the status of the active commands at broader level of granularities is provided as well. In case 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".

© 2019 Euronext N.V. - All rights reserved.

Details are sent in the order of broader granularity first, followed by the narrower granularity (if it exists / applies).

Example: A Risk Manager suspended initially 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 RiskControlsDetails (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 that he triggered personally.

3.5 OTHER FEATURES

- In case 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.

© 2019 Euronext N.V. - All rights reserved.

4. 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; OAL activated/deactivated; MEP activated/deactivated - for future implementation).

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.

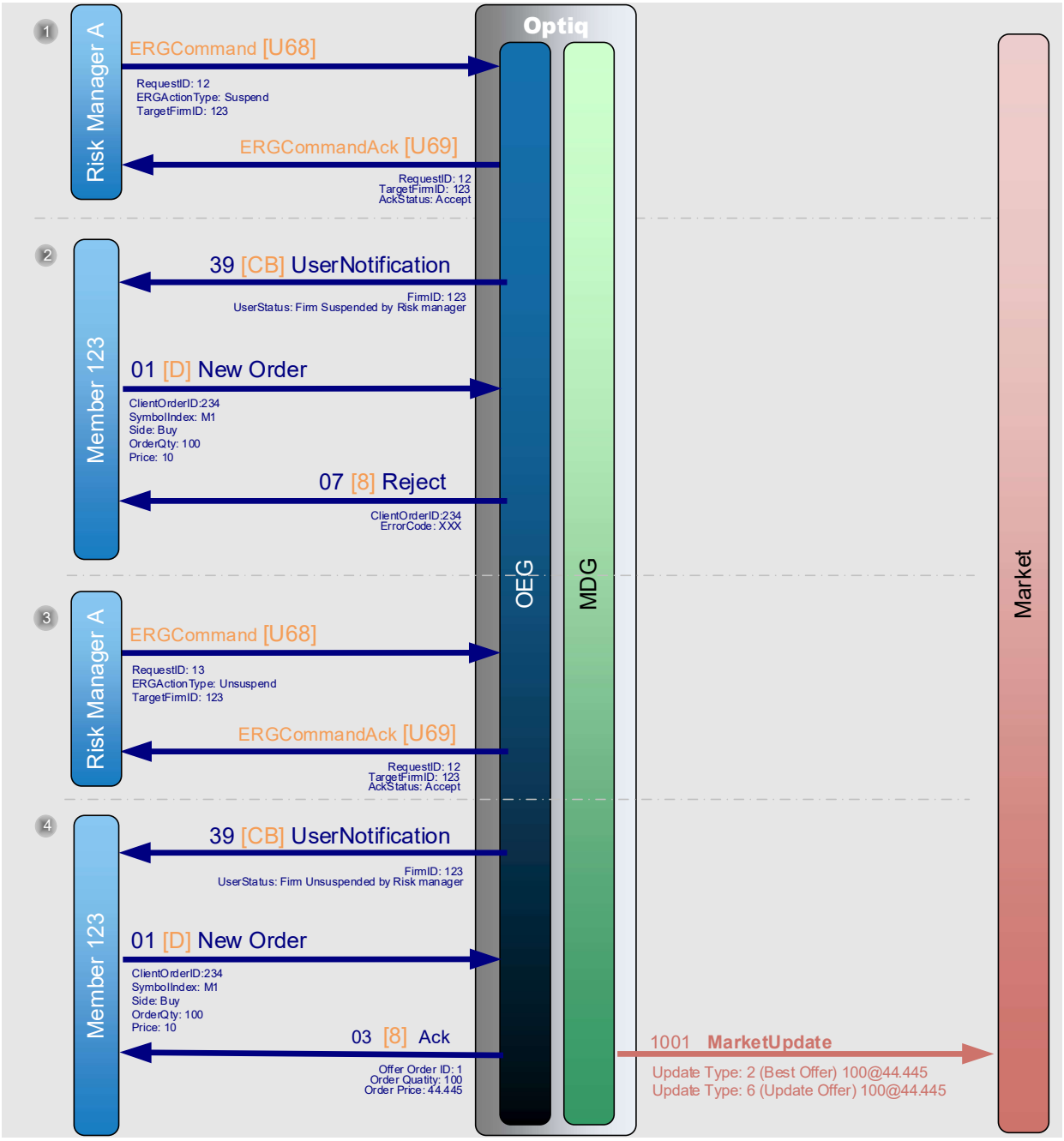
Command	Granularity	User Status - SBE (FIX) code
Suspend / Unsuspend (Kill Switch)	FirmID + ExecutionWithinFirmShortCode	13 (113) = Trader-Algo Suspended by Risk Manager 14 (114) = Trader-Algo Unsuspended by Risk Manager
	FirmID	15 (115) = Firm Suspended by Risk Manager 16 (116) = Firm Unsuspended by 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
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	33 (133) = OAL Activated for a logical access by Risk Manager 34 (134) = OAL deactivated for a logical access by Risk Manager

Note: the MEP command and SourceID granularity are for future implementation and will be added to this table in due course.

© 2019 Euronext N.V. - All rights reserved.

5. APPENDIX B – KINEMATICS

5.1 KINEMATICS: SUSPEND / UNSUSPEND COMMAND



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

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

© 2019 Euronext N.V. - All rights reserved.

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

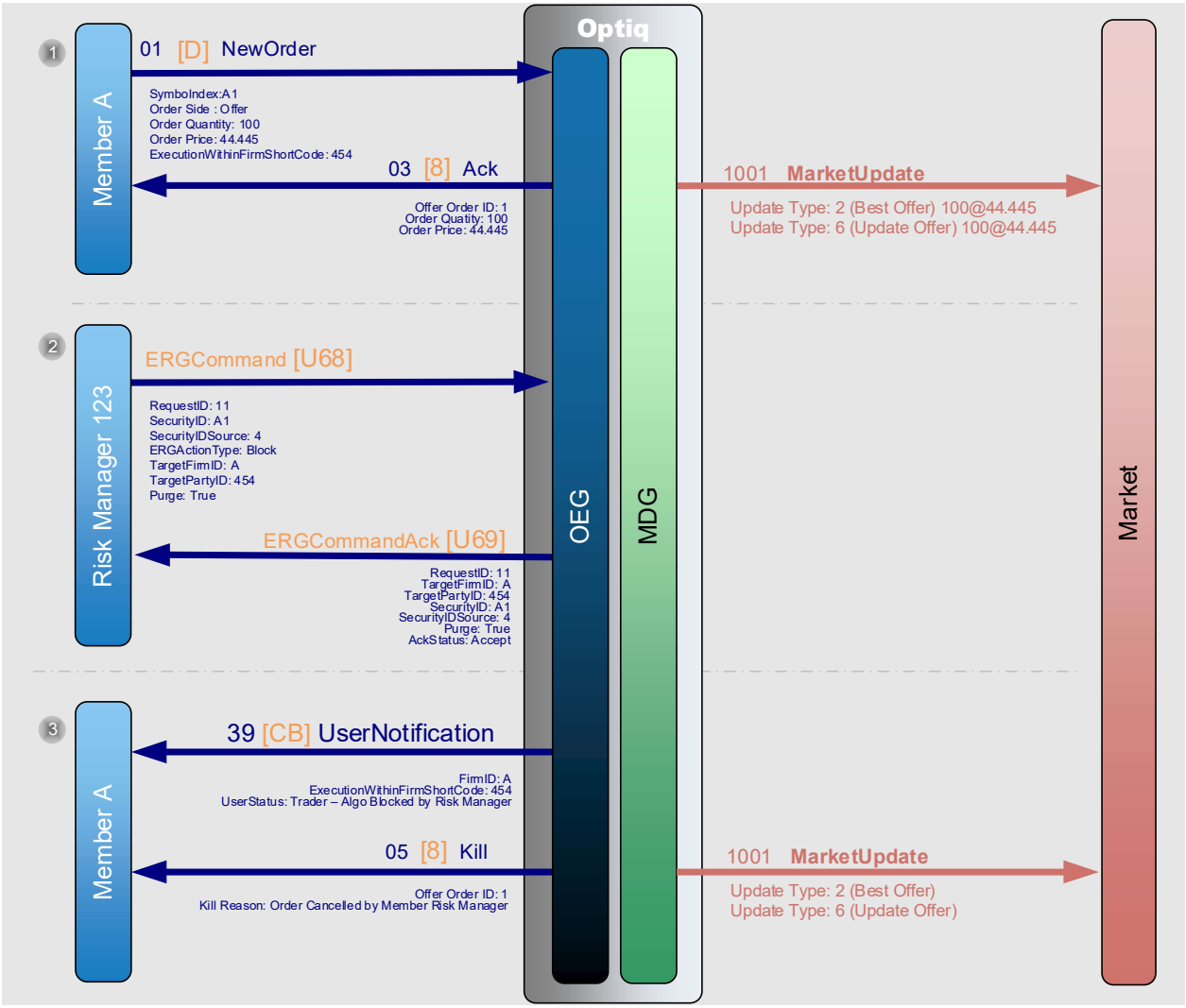
③ Risk Manager A sends an **ERGCommand** (U68) message to request the Unsuspension of the FirmID (identifier provided within the 'TargetFirmID' field). OEG sends back a private **ERGCommandAck** (U69) message to confirm the successful receipt and technical processing of the message.

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.

© 2019 Euronext N.V. - All rights reserved.

5.2 KINEMATICS: BLOCK COMMAND



Both the Risk Manager '123' and a Member (using FirmID 'A') are logged to the Equities segment. Risk Manager '123' is setup 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.

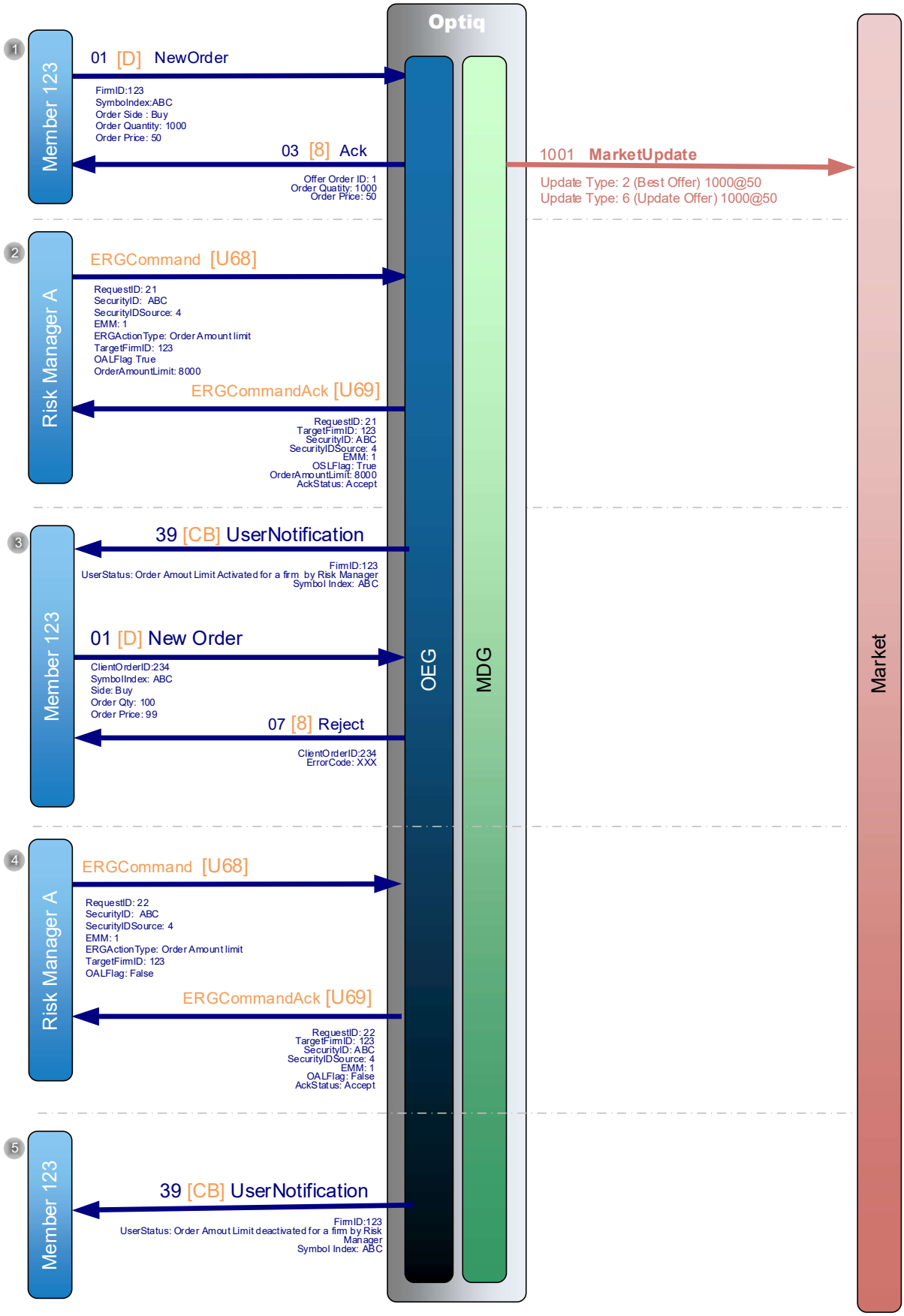
© 2019 Euronext N.V. - All rights reserved.

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 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.

© 2019 Euronext N.V. - All rights reserved.

5.3 KINEMATICS: ORDER AMOUNT LIMIT COMMAND



© 2019 Euronext N.V. - All rights reserved.

Both the Risk Manager 'A' and a Member (using FirmID '123') are logged to the Equities segment. Risk Manager 'A' is setup 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 DRCP 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; DRCP]), 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, no OAL control is applied to incoming messages by FirmID '123' on instrument ABC.

© 2019 Euronext N.V. - All rights reserved.

6. APPENDIX C - ACCESS TO EURONEXT RISKGUARD CASH

In order to access the Euronext RiskGuard service:

- **Step 1**. Any Euronext RiskGuard Participant 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.
  - Euronext Trading Members who wish to make use of Euronext RiskGuard to self-monitor the risk of **their firm must sign the 'Statement of Authority to be signed by a Member in respect of its business executed on the Euronext markets';**
  - 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 a **'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, a Participant must sign a **"Sponsored Access Application Form"** that will be made available on the Euronext website in due course.

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

© 2019 Euronext N.V. - All rights reserved.