Release Notes

22 March 2018

Borsa Italiana

IDEM Market

SOLA Trading System - Version 12

Release Notes

March 2018

Version 1.0

London
Stock Exchange Group

1.0 Document history

This document has been through the following iterations:

Version	Date	Section	Description
1.0	22 March 2018		First issue of this document published via Borsa Italiana's website and distributed to IDEM customers.

2.0 Purpose

This document provides IDEM customers with a high-level functional description of the changes introduced in Version 12 of the SOLA® Trading System, as well as guidelines for the impacts on the trading system's protocols connected to these business enhancements. A full description of the changes to SOLA's protocols is described in the protocol specifications indicated at paragraph 3 (SAIL, FIX 4.2 and HSVF). In case of any discrepancy between this document and the SAIL, FIX and HSVF protocol specifications, protocol specifications shall prevail.

The release of Version 12 of the SOLA® Trading System for the IDEM market in CDS environment is currently scheduled on 3 April 2018. Further information about dates for the Customer Dress Rehearsal and Go Live will be provided in due course.

3.0 Readership

This document is particularly relevant to technology teams within IDEM's member firms, as it describes the changes to the technical interfaces in use to connect to the IDEM market.

4.0 Document series

This document is part of a series of documents which provide technical specifications for the SOLA® Trading System. This series of documents includes:

- IDEM - Guide to the Trading System
- SOLA Connectivity Guide - Issue 1.5
- SAIL Protocol: SAIL Specification - Issue 7.0
- Fix Protocol: FIX 4.2 Specification - Issue 7.0
- HSVF Market Data - Issue 7.0
- IDEM - Guide to PTV functionality

The latest version of these documents can be found at the following links, where guides to the conformance testing phase for this new version of the SOLA® Trading System are also available:

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Italian Version:

www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazioneidem/migrazioneidem.htm

English Version:

www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazioneidem/migrazioneidem.en.htm

5.0 Enquiries

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6.0 New functionalities supported in Version 12 of the SOLA® Trading System

Version 12 of the SOLA® Trading System will support the following main functional enhancements:

- deferred publication of trade details in market data protocols ("Deferred publication");
- support to MiFID 2 pre-trade "Package Order" waiver;
- support to MiFID 2 pre-trade "Exchange for Physicals" (EFP) waiver and (for LSEDM only, not relevant for the IDEM market) connected review of Basis Trades/Exchange For Securities/Exchange of Future for Swaps functionality;
- a new throttling mechanism.

A description of the key features of these enhancements, reason for change and relevant protocol changes are described in the following paragraphs.

6.1 Deferred publication

Version 12 of the SOLA® Trading System will support the possibility to defer the publication of trade details in market data feeds on request of market participants, under the MiFIR / MiFID 2 waivers to post-trade transparency, subject to regulatory approvals. On request of market participants at order entry, the publication of trade details in market data protocols can be deferred to the end of the trading day. In this case, no information regarding the executed transaction will be immediately disseminated via market data protocols. This possibility is reserved to order types implementing pre-arranged, "negotiated transactions", and only in case the characteristics of the executed transaction are in line with the requirements of MiFIR / MiFID 2 as concern exemptions to immediate post-trade transparency.

This new functionality will:

a. introduce a new field in order entry messages (including cross and bundle orders entry messages, also through the Third Party functionality) in order to allow a market participant to specify its request to defer the publication of trade details in case the order is executed. In case the request cannot be accepted, specific error messages will be returned to the participant;

b. modify the structure of Execution Notice (SAIL) and Execution Report (FIX) messages, by introducing new fields and new values in existing fields to indicate:

   (i)   whether trade details have been published immediately or deferred to the end of the trading day;

   (ii) the reason of the outcome of the deferred publication request;

   (iii) whether deferred publication of trade details happened under the MiFID 2 "large in scale" or "illiquid instrument" post-trade deferral, and;

(iv)   a new Trade Status ("Approved and Deferred") marking transactions that have been executed, but whose trade details will be published in market data feeds at the end of the trading day only;

c.   make use of two existing values in Trade messages (field "Deferral flag") and Post Trade messages (field "Deferral Flag Marker") in market data protocol HSVF, to mark transactions whose publication has been deferred to the end of the trading day, instead of being immediately disseminated to the public;

d.   introduce new fields in reference data messages, disseminated via HSVF, to indicate for each instrument group the minimum required size for a transaction, in order to be granted a deferral to immediate post-trade transparency requirements.

6.2   Support to MiFID 2 "Package Order" pre-trade waiver

Version 12 of the SOLA® Trading System will support the execution of pre-arranged, negotiated transactions under the MiFIR / MiFID 2 "Package Order" pre-trade waiver, subject to regulatory approvals. With this enhancement, it will be possible to execute pre-arranged, negotiated strategy transactions in equity derivatives where at least one (potentially, only one) leg has a size above the pre-trade "large-in-scale" (LIS) threshold defined by MiFIR / MiFID 2, that permits exemptions to pre-trade transparency. Currently, all legs of a negotiated strategy transaction must individually be above their respective LIS threshold in order to be accepted. This functionality is reserved to orders aiming at executing negotiated strategy transactions that fulfill a series of additional criteria - as defined by MiFIR / MiFID 2 – that are required to qualify an order to the so called pre-trade "Package Order" waiver in equity derivatives.

This new functionality will make use of existing fields and values in order to mark transactions deriving from orders accepted under the MiFID 2 "Package Order" pre-trade waiver:

a.   in market data protocol HSVF, in fields "PTT Trade Types flag marker" and "PTT Trade Types flag" (in Trade and Post Trade messages);

b.   in Execution Notice messages distributed to trade counterparties via SAIL (fields "Waiver indicator flag" and "PTT Trade Types flag") and Execution Report messages distributed via FIX protocol (tags 2669 and 2670).

No new fields or values have been added to order entry messages in order to support this new functionality.

6.3   Support to MiFID 2 "Exchange For Physicals" pre-trade waiver

Version 12 of the SOLA® Trading System will support the execution of pre-arranged, negotiated transactions under the MiFIR / MiFID 2 "Exchange for Physicals" pre-trade waiver, subject to regulatory approvals. Please note that the "Exchange for Physicals" waiver is relevant for commodity

derivatives only, and will not be initially made active for the IDEM market. With this enhancement, pre-arranged, negotiated transactions that are EFPs will be possible at any size, also in case the instrument is classified by MiFID 2 as "liquid", and so subject to size restrictions for the execution of transaction under a pre-trade transparency waiver.

This new functionality will make use of existing fields and values in order to mark transactions deriving from orders accepted under the MiFID 2 "Exchange for Physicals" pre-trade waiver:

a. in market data protocol HSVF, in fields "PTT Trade Types flag marker", "PTT Trade Types flag" and "Price Indicator Marker" (in Trade and Post Trade messages);

b. in Execution Notice messages distributed to trade counterparties via SAIL (fields "Waiver indicator flag", "PTT Trade Types flag" and "Special Trade Indicator") and Execution Report messages distributed via FIX protocol (tags 2669, 2670 and 9459).

Orders to execute a pre-arranged, negotiated "Exchange for Physicals" transaction must be marked with the existing value "P" at order entry in "Price Type" field (SAIL) / OrdType field (FIX), currently in use for Basis Trades/EFSs.

6.4 New Price Type to continue support for Basis Trades and EFSs (Exchange For Securities/of Future for Swap) (LSEDM only, not relevant for IDEM)

In order to maintain support for negotiated transactions classified as "Basis Trades" and EFSs (Exchange For Securities/of Future for Swap), a new value ("B") in order entry messages has been added to "Price Type" field (SAIL) and OrdType field (FIX), as a replacement for value "P", that will be re-used for execute MiFID 2-compliant "Exchange for Physicals" transactions.

Transactions that are Basis Trades/EFSs will be marked with dedicated values in SAIL Execution Notices (field "Special Trade Indicator"), FIX Execution Reports (tag 9459) and HSVF Trade messages (Price Indicator Marker).

No functional changes will be applied to Basis Trades and EFSs. In particular, market participants are reminded that price and quantity controls for Basis Trades and EFSs are the same applied to any other regular negotiated transaction on the same instrument.

6.5 New throttling mechanism

In order to improve the overall latency performance offered to market participants by the SOLA$^{®}$ Trading System, the technical functioning of the "throttling" mechanism at reception of client messages will be modified. Today, a "park and queue" mechanism is in place, whereas incoming messages in the same second that exceed the maximum number of allowed messaged defined for their logical connectivity channel are parked during such second, queued and inserted in the matching engine in the first available time (one second) slot, according to time priority. With the new mechanism ("message cancel" methodology), these messages will be rejected with a new dedicated error code

and the system will be free to immediately process the first messages received in the following second(s)[1]. The system will be configurable to maintain the existing or the new throttling mechanism at user choice, at the level of each UserID.

6.6 Other interface changes

The following additional changes to improve customer service are part of Version 12 of the SOLA® Trading System:

a. reference data for instrument series disseminated via HSVF have been enriched by including the minimum and maximum size for orders to execute pre-arranged, negotiated transactions, expressed in number of lots. This values are set and regularly updated according to Market Rules, consistently with the "large in scale threshold" defined by MiFIR / MiFID 2 in notional value (euro);

b. following clients' demand, in case of order cancellation via FIX protocol when the market is closed, the response message received by the customer is currently 35 = 8 (Execution Report) with tag 150=8 (rejected). In SOLA Version 12, the response message will be changed into 35 = 9 (OrderCancelReject);

c. as concerns Bundle Orders, a new value ("Parked") has been added to the Trade Status field in SAIL, in order to better identify leg transactions that got approval from both the buyer and the seller, but that are still waiting for the approval of the entire bundle in order to be executed.

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[1] All messages, with the sole exception of technical messages TA (Disconnection Instruction), TC (User Connection), TD (User Disconnection) and TI (Heartbeat, Inbound), will be rejected.

7.0   Interface changes: SAIL protocol

The following table provides a full description of the changes to the native SOLA® Access Information Language (SAIL) protocol, introduced by the functional enhancements described in this Release Notes.

Field	Messages	Description of the change	Linked to
Deferred Publication **(new field)**	OE (Order entry) OX (Cross order entry) BO (Bundle Order) OB (Order Proposal) KE (Order Acknowledgment) KB (Proposal Acknowledgment) KZ (Proposal Cancellation Acknowledgment)	New field to handle request to defer publication of trade details: - [blank]: No request to defer publication - "D": Deferred publication request	Deferred publication (6.1(a))
Error Code and Error Description	ER (Error message)	New error codes and descriptions: - "0132": Deferred publication not allowed for the specific Price Type (deferred publication is possible only for order types to execute negotiated transactions) - "0133": Inconsistent deferred publication request (Bundle Orders)	Deferred publication (6.1(a))
Error Code and Error Message	TE (Technical Error)	New error code and description: - "0666": Message is rejected due to throttling	New throttling mechanism (6.5)
Deferred Publication **(new field)**	NT (Execution notice) NL (Leg execution notice) NX (Execution Cancellation Notice) NY (Leg Execution Cancellation Notice)	New field to indicate the outcome of the deferred publication request: - "D": Publication of trade details deferred to the end of the trading day - "I": Trade details published immediately	Deferred publication (6.1(b))
Additional Trade Reason	NT (Execution notice) NL (Leg execution notice)	Existing filler AuctionID (6) is deprecated and substituted by this new field (2) + filler (4). New field to indicate the outcome of the	Deferred publication (6.1(b))

(new field)	NX (Execution Cancellation Notice) NY (Leg Execution Cancellation Notice)	deferred publication request, and the reason: - "01": Trade details have been published immediately – Trades details do not permit deferred publication - "02": Trade details have been published immediately – All counterparties stated no preference - "03": Trade details will be published at the end of the day – At least one counterparty required deferred publication	
Deferral Flag	NT (Execution notice) NL (Leg execution notice) NX (Execution Cancellation Notice) NY (Leg Execution Cancellation Notice)	New values introduced to indicate the applied MiFID 2 post-trade transparency waiver: - "L": "LRGS" - Transaction executed under the "large in scale" post-trade transparency deferral - "I": "ILQD" - Transaction executed under the "illiquid instrument" post-trade transparency deferral - "blank": none	Deferred publication (6.1(b))
Trade Status	NT (Execution notice) NL (Leg execution notice) NX (Execution Cancellation Notice) NY (Leg Execution Cancellation Notice)	New values: - "B": "Approved and deferred" (deferred publication) - "P": "Parked" (other enhancements)	Deferred publication (6.1(b)), Other enhancements (6.6(c))
Waiver Indicator flag	NT (Execution notice) NL (Leg execution notice) NX (Execution Cancellation Notice) NY (Leg Execution Cancellation Notice)	New values introduced to mark transactions executed under the MiFID 2 pre-trade "package order" waiver or "Exchange For Physicals" waiver: - "3": "XFPH" - Transaction executed from orders under the pre-trade "Exchange for Physicals" waiver - "4": "TPAC" - Transaction executed from orders under the pre-trade "package order" waiver	Package order waiver (6.2(b)), EFP waiver (6.3(b))
PTT Trade Types flag	NT (Execution notice) NL (Leg execution notice) NX (Execution Cancellation Notice) NY (Leg Execution Cancellation Notice)	Existing values that will mark transactions executed under the MiFID 2 pre-trade "package order" waiver or "Exchange For Physicals" waiver: - "X" (new meaning): "XFPH" - Transaction executed from orders under the pre-trade "Exchange for Physicals" waiver - "T": "TPAC" - Transaction executed from orders under the pre-trade "package order" waiver	Package order waiver (6.2(b)), EFP waiver (6.3(b))
Price Type	OE (Order Entry) OX (Cross Order Entry)	New value to maintain support for Basis Trades/EFSs: - "B": Basis Trade/Exchange for Security/Exchange of	Basis Trades / EFSs (6.4), EFP waiver (6.3)

	BO (Bundle Order) OB (Order Proposal) PR (Proposal Request) PN (Proposal Notice) PU (Proposal Update) KE (Order Acknowledgment) KB (Proposal Acknowledgment) KZ (Proposal Cancellation Acknowledgment) NT (Execution notice) NL (Leg execution notice) NX (Execution Cancellation Notice) NY (Leg Execution Cancellation Notice)	Futures for Swap Existing value with new meaning to enter orders to execute "Exchange for Physicals" transactions: - "P": Exchange for Physicals	
Special Trade Indicator	NT (Execution notice) NL (Leg execution notice) NX (Execution Cancellation Notice) NY (Leg Execution Cancellation Notice)	New value to maintain support for Basis Trades/EFSs: - "s": Basis Trade/Exchange for Security/Exchange of Futures for Swap Existing value with new meaning to mark "Exchange for Physicals" transactions: - "E": Exchange for Physicals	Basis Trades / EFSs (6.4), EFP waiver (6.3)

8.0   Interface changes: FIX 4.2 protocol

The following table provides a full description of the changes to the FIX protocol in use by the SOLA® Trading System, introduced by the functional enhancements described in this Release Notes.

Field	Messages	Description of the change	Linked to
[Tag 1390] TradePublishIndicator **(new field)**	D (New order –Single) s (New Cross Order) AE (Trade Capture Report) 8 (Execution Report)	New field to handle request to defer publication of trade details: - "0": No request to defer publication - "2": Deferred publication request	Deferred publication (6.1(a))
[Tag 58] Text	8 (Execution Report)	New error codes: - "132": Deferred publication not allowed for the specific Price Type (deferred publication is possible only for order types to execute negotiated transactions) - "133": Inconsistent deferred publication request (Bundle Orders)	Deferred publication (6.1(a))
[Tag 373] SessionRejectReason and [Tag 58] Text	3 (Protocol Error / Reject)	New error code/text: - "666": Message is rejected due to throttling	New throttling mechanism (6.5)
[Tag 914] TradeAdditionalInformation **(new field)**	8 (Execution Report)	Field AgreementID is deprecated and substituted by this new field indicating the reason of the outcome of the deferred publication request - "01": Trade details have been published immediately. Trade details do not permit deferred publication - "02": Trade details have been published immediately. All counterparties stated no preference - "03": Trade details will be published at the end of the day. At least one counterparty required deferred publication	Deferred publication (6.1(b))
[Tag 2668] NoTrdRegPublication **(new field)**	8 (Execution Report)	In case [Tag 17] ExceID contains "NT". New field indicating the number of repeatable RegPublicationTypes and TrdRegPublicationReason (Tags 2669+2670). From 1 to 3.	Deferred publication (6.1(b)), Package order waiver (6.2(b)), EFP waiver (6.3(b))

[Tag 2669] TrdRegPublicationType	8 (Execution Report)	In case [Tag 17] ExceID contains "NT". New values and meaning for tag 2670: - "0" (existing value): Waiver Indicator Flag - "1": Deferral Flag - "2": PTT Trade Type	Deferred publication (6.1(b)), Package order waiver (6.2(b)), EFP waiver (6.3(b))
[Tag 2670] TrdRegPublicationReason	8 (Execution Report)	In case [Tag 17] ExceID contains "NT". New values and meaning: - "4" (existing value with new meaning): "ILQD" - Transaction executed under the "illiquid instrument" pre-trade waiver (Tag 2669 = "0") or "illiquid instrument" post-trade deferral (Tag 2669 = "1") - "6" (existing value with new meaning): "LRGS" - Transaction executed under the "large in scale" pre-trade waiver (Tag 2669 = "0") or "large in scale" post-trade deferral (Tag 2669 = "1") - "7" (new value): "XFPH" - Transaction executed under the pre-trade "Exchange For Physicals" waiver (Tag 2669 = "0" or "2") - "8" (new value): "TPAC" - Transaction executed under the pre-trade "Package order" waiver (Tag 2669 = "0" or "2")	Deferred publication (6.1(b)), Package order waiver (6.2(b)), EFP waiver (6.3(b))
[Tag 40] OrdType	D (New order – Single) s (New Cross Order) AE (Trade Capture Report) 8 (Execution Report)	New value to maintain support for Basis Trades/EFSs: - "B": Basis Trade/Exchange for Security/Exchange of Futures for Swap Existing value with new meaning to enter orders to execute "Exchange for Physicals" transactions: - "P": Exchange for Physicals	Basis Trades / EFSs (6.4), EFP waiver (6.3)
[Tag 9459] SpecialTradeInd	8 (Execution Report)	New value to maintain support for Basis Trades/EFSs: - "s": Basis Trade/Exchange for Security/Exchange of Futures for Swap Existing value with new meaning to mark "Exchange for Physicals" transactions: - "E": Exchange for Physicals	Basis Trades / EFSs (6.4), EFP waiver (6.3)

9.0   Interface changes: HSVF protocol

The following table provides a full description of the changes to the market data (HSVF) protocol, introduced by the functional enhancements described in this Release Notes.

Field	Messages	Description of the change	Linked to
PTT Trade Types Flag	PT (Post trade message) I (Option Trade Cancellation message) IF (Future Trade Cancellation message) IS (Strategy Trade Cancellation message)	Existing values that will mark transactions executed under the MiFID 2 pre-trade "package order" or "Exchange For Physicals" waivers: - "T": "TPAC" - Transaction executed from orders under the pre-trade "package order" waiver - "X" (new meaning): "XFPH" - Transaction executed from orders under the pre-trade "Exchange for physicals" waiver	Package order waiver (6.2(a)), EFP waiver (6.3(a))
PTT Trade Types Flag marker	C (Option Trade message) CF (Future Trade message) CS (Strategy Trade message)		
Deferral Flag	PT (Post trade message) I (Option Trade Cancellation message) IF (Future Trade Cancellation message) IS (Strategy Trade Cancellation message)	Existing values that will indicate that the details of the transaction have been published at the end of the trading day, and the applied MiFID 2 waiver to post-trade transparency: - "L": "LRGS" - Transaction executed under the "large in scale" post-trade transparency waiver - "I": "ILQD" - Transaction executed under the "illiquid instrument" post-trade transparency waiver - [blank]: none	Deferred publication (6.1(c))
Deferral Flag marker	C (Option Trade message) CF (Future Trade message) CS (Strategy Trade message)		
Block Min Volume **(new field)**	JF (Futures instrument keys) J (Options instrument keys)	New field indicating the minimum size configured in the system for the execution of a bilateral transaction, expressed in number of lots.	Other protocol enhancements (6.6(a))
Outside Spread Min Volume **(new field)**	JF (Futures instrument keys) J (Options instrument keys)	New field indicating the minimum size configured in the system for the execution of a bilateral transaction at prices "outside spread", expressed in number of lots.	Other protocol enhancements (6.6(a))
Block Max Volume **(new field)**	JF (Futures instrument keys) J (Options instrument keys)	New field indicating the maximum size configured in the system for the execution of a bilateral transaction, expressed in number of lots.	Other protocol enhancements (6.6(a))

Post Trade LIS Volume **(new field)**	JF (Futures instrument keys) J (Options instrument keys)	New field indicating the minimum size configured in the system to accept a Deferred Publication request, expressed in number of lots.	Deferred publication (6.1(d))
Post Trade LIS Value **(new field)**	JF (Futures instrument keys) J (Options instrument keys)	New field indicating the minimum size configured in the system to accept a Deferred Publication request, expressed in notional value.	Deferred publication (6.1(d))
Price Indicator Marker	C (Option Trade message) CF (Future Trade message) CS (Strategy Trade message) I (Option Trade Cancellation message) IF (Future Trade Cancellation message) IS (Strategy Trade Cancellation message)	New value to maintain support for Basis Trades/EFSs: - "s": Basis Trade/Exchange for Security/Exchange of Futures for Swap Existing value with new meaning to mark "Exchange for Physicals": - "e": Exchange for Physicals	Basis Trades / EFSs (6.4), EFP waiver (6.3)