



London
Stock Exchange Group

Technical User Group

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Agenda

- Turquoise MITCH Decommission
- TRADEcho Release 10
- Turquoise Release 9.3
- London Stock Exchange Release 9.3
- Turquoise and TRADEcho “Hard” Brexit Plans
- Borsa Italiana Update
- 2018 Timeline



Turquoise – MITCH Decommission

Turquoise – MITCH Decommission

- Earlier this year, Turquoise announced that Turquoise MITCH will be decommissioned on 1 July 2018.
- Majority of members have now moved over to GTP.
- Technical Account Management team are working with any members who have not yet migrated to GTP to get them moved ASAP.
- Plans to decommission MITCH for other London Stock Exchange Group markets have yet to be finalised.

Turquoise – MITCH Decommission

- For reference, the following guides are available for use:

Document Identifier	Document Title	Issue	Content
GTP001	Product Guide	13.2	Product overview, architecture, key product drivers.
GTP002	Technical Guide	19.4	Message formats, data recovery, delivery standards.
GTP003	Statistic Guide	10.3	Derived data overview, calculation methodologies.
GTP004	Parameters Guide	19.4	IP address ranges, product interaction parameters.
GTP005	Testing Services Guide	9.1	Customer testing requirements and support.
GTP008	Market attributes Guide	3.0	Market/service specific differences in the operation or provision of data from the GTP

- GTP documentation can be found at the following link:

<https://www.lseg.com/areas-expertise/technology/group-technology/group-ticker-plant>



TRADEcho Release 10

TRADEcho Release 10

- Addition of Supplementary Deferrals
- Addition of EEA and Equivalent Trading Venues
- CSV upload to handle Cancels and Amends
- SRR – Branch Location on Entering and Counterparty side
- TRADEcho to open at 06:00 (London time)
- Bug Fixes, among them are:
 - APA now correctly validates OnExchange rules when trade currency is not EUR
 - Quote for non-equity Instrument submitted without Notional Currency is no longer accepted

TRADEcho Release 10

For a full list of changes, updates and bug fixes please refer to the TRADEcho documentation found at the following microsite:

<http://www.londonstockexchange.com/products-and-services/technical-library/millennium-exchange-technical-specifications/millennium-exchange-technical-specifications.htm>

TRADEcho Release 10 is currently in CDS for customer testing and is expected to become available in Production in August.



Turquoise Release 9.3

Turquoise Release 9.3

- Changes to allow Sponsored Access Users to trade in the **Turquoise Lit Auction™**
- Optional functionality to default orders entered into the dark book to participate in **Turquoise Plato Block Discovery™**
- Publication of the Primary Best Bid and Offer (PBBO) through Group Ticker Plant when updates have passed a well formed market check
 - Published via Statistics Update Message
 - New Values added to Statistics Type
 - 18 – PBBO Midpoint Price under WFMC
 - 19 – PBBO Midpoint cleared due to WFMC failing



London Stock Exchange Release 9.3

London Stock Exchange Release 9.3

- Real-Time Circuit Breaker Alerts via Drop Copy gateway
 - New message being introduced to drop copy gateway
 - Only disseminated to drop copy CompID's configured to receive the message.
- Auto Complete RFQ
 - System will automatically execute and RFQ without the requestor having to send an execution instruction manually



Trade Summary Message

- Single consolidated message which disseminates trade summary information prior to individual trades.
- New message via GTP which disseminates
 - Far Price – last executed price of the executions
 - Total Execute Quantity
 - Total Hidden Executed Quantity
 - Deleted Order Quantity
- Not sent for Auction Orders.
- Not provided as part of a GTP recovery request.



Turquoise and TRADEcho “Hard” Brexit Plans

Turquoise & TRADEcho “Hard” Brexit Contingency Plan

The information contained in the pack pertains to Brexit contingency plan of Turquoise Global Holdings Limited and TRADEcho in the event of a “hard” Brexit. In the event of other Brexit scenarios with a workable transition period, these plans are subject to change.

The plans assume an extreme “hard” Brexit, i.e. that all passporting rights will be lost and there will be no equivalence agreements between the EU and the UK which facilitate cross-border services.

Dates contained within this document are subject to regulatory approval and subject to the outcome of the UK-EU Brexit negotiations and any agreed transitional arrangements.



Turquoise

Turquoise – Future State

- Turquoise Global Holdings Limited (TGHL) will remain as an investment firm authorised and regulated by the Financial Conduct Authority of the United Kingdom.
- Turquoise Global Holdings Europe (TGHE) will be created as an investment firm located in an EU27 country regulated by the local regulator.
- TGHL will continue to operate a MTF for trading in UK and Swiss securities.
- TGHE will operate a MTF for trading in all other European securities including Norway.
- TGHL and TGHE plan to remain interoperable with all 3 of its current CCP's.

Turquoise – Future State

- Participants who want to trade UK and Swiss listed securities will need to be a member of TGHL.
- Participants who want to trade “other European” listed securities will need to become a member of TGHE.
- New instance of the Member Portal will be available for TGHE.
- Participants should request new membership and User ID’s to trade “other European” securities through the new instance of the portal.
- Data will not be shared between the TGHL and TGHE instances

Connectivity Requirements

- Existing CompIDs and UserIDs will remain for firms trading UK and Swiss securities. Customers will only be permitted to submit orders in UK and Swiss securities using these ID's. Orders entered in “other European” securities via these existing CompIDs and UserIDs will be rejected.
- New CompIDs and UserIDs will be assigned to firms trading “other” European securities (on TGHE). Customers will only be permitted to submit orders in these European securities through these ID's. Orders entered via these new UserIDs in UK or Swiss securities will be rejected.
- Connectivity for both TGHL and TGHE will remain in the existing data centres. No new physical connectivity is required. Existing gateway IP ranges will remain the same.

Interface Changes

- 4 new MIC codes will be added to the existing trading and market data messages for the TGHE markets.
- No other changes expected to the trading or market data protocols.
- Instrument Reference Data files will be updated to include the new MIC codes for the TGHE markets.
- Market Data channels will remain the same. However, markets may be rebalanced across existing channels in order to segregate data.



Timelines – Hard Brexit Contingency Plan

The timeline below sets out the expected timeframes to support the launch of TGHE in a hard Brexit scenario (effective 29 March 2019).

Dates below are subject to regulatory approval and dependent on the outcome of Brexit negotiations and any agreed transitional agreements.

- June 2018 – Customer Briefings
- November 2018 – CDS available with new MIC codes for the new European entity
- February 2019 – Go-live



TRADEcho

TRADEcho Future State

- TRADEcho will continue to allow trade reporting services across a single member ID of the combined EU27 & UK instrument universe.
- In the event of a hard Brexit with no transition agreement in place, TRADEcho will establish a European APA service, to be located in a EU27 country and regulated by the local regulatory authority. Customers will therefore have the option of reporting the OTC and SI EU27 business to the new EU27 TRADEcho APA, whilst continuing to report non-EU27 UK business to the existing UK TRADEcho, including on-Exchange off book trades.
- Customers wishing to access the European APA service will need to contract with the new entity.
- Customers contracting with both APAs will indicate which they are reporting to via the incoming message.
- SRR will remain as a single entity supporting both APAs but would the need ability to introduce new rules to distinguish reporting obligations in the relevant jurisdiction of the submitter and its counterparty.
- As London Stock Exchange will be a UK Regulated Market, on Exchange trade reports will be reported to the UK entity for publication.



Interface Changes

- New MIC codes will be introduced in the FIX trade report and SI Quote messages so customers can indicate the APA they want to report to (ie. UK APA or EU APA).
- GTP messages will disseminate new MIC codes for Venue of Execution.
- No other major changes expected to the trading or market data interfaces
- Date for CDS and production go-live are being reviewed and will be communicated in due course.



Borsa Italiana Updates

Borsa Italiana Release 9.3

- Key dates
 - Technical Specification will be published in July
 - CDS will be available in September 2018 (Legacy CDS with the currently live MIT version will be made available)
 - **Go-Live in November 2018** (TBC , subject to customers' readiness), Customer Dress Rehearsals will be organized prior the go-live
- The new functionalities that will be delivered together with the release are
 - Trade Amendments (Price and/or Quantity)
 - Auto RFQ
- Conformance Test will be mandatory for all proprietary applications/ISVs that implemented RFQ submit (via both FIX and Native protocols)
 - Self Certification for the management of Trade Amendments will be requested for all applications

MIT Hardware Refresh

- During **2019**, Hardware on which the MIT platform runs will be replaced
- It will impact both Borsa Italiana and EuroTLX
- No changes to Native and FIX Trading Protocol are planned to happen together with the Hardware Refresh
- Together with the go-live of the Hardware Refresh, the MITCH service will be decommissioned
 - Market Data for markets running on the MIT platform will be disseminated by the GTP and GTP Lite services only
- One of the key objectives of the project are to provide customers with a **significant improvement of performances** and to support new services
- Under Review: move to another data centre (TBC)

GTP Milan – Introduction of FPGA

- During **2019** (together with the MIT HW refresh, TBC), FPGA (*Gen3*) technology will be introduced for GTP FDI Multicast Channels (for both Borsa Italiana and EuroTLX)
- No protocol changes are planned to happen together with the FPGA introduction
- Customer Dress Rehearsals might be organized prior the go-live
- **Performance will significantly improve**
- Further Technical/Architectural details will be provided in due course
- Bandwidth requirement for FDI Multicast Channels \geq 1 Gbps (TBC)

Introduction of a second CCP (EuroCCP) – 1

- Under the terms of Art.36 of MiFIR, a new CCP (EuroCCP) required Borsa Italiana to be granted access to the data of the transactions (on certain financial instruments) executed on the MTA, Blt GEM and ETF+ markets of Borsa Italiana, in order to offer clearing services for these transactions
- Following this request, Borsa Italiana and EuroCCP have cooperated to define the operational model and technically implement this new service
- This service requires regulatory authorizations and a change of Borsa Italiana's Rulebook (ongoing), target go-live date late Q3/beginning of Q4

Introduction of a second CCP (EuroCCP) – 2

- **There will not be interoperability between CC&G and EuroCCP**
- Clients that want to appoint EuroCCP as their *Preferred CCP* will be requested to use new dedicated Trading Comp IDs
- When both the Comp ID that sent the “buy” side and the Comp ID that sent the “sell” side of a Trade are associated to EuroCCP as *preferred CCP*, the Trade will be cleared by EuroCCP
 - In any other case (if at least one of the two involved Comp IDs is associated to CC&G as *preferred CCP*) the Trade will be cleared by CC&G
 - By sending an order via a Comp ID that has EuroCCP as its *preferred CCP*, it is not guaranteed that the Trades will be effectively cleared by EuroCCP
 - Membership to CC&G will therefore remain mandatory in case of participation to any of Borsa Italiana’s cleared markets



2018 Timeline



2018 Timeline

- **16 July 2018** – SOLA 12.3 Go-Live on LSEDM and CurveGlobal
- **August 2018** – TRADEcho Release 10 Upgrade
- **August 2018** – Turquoise Release 9.3
- **October 2018** – London Stock Exchange Release 9.3
- **End of Q3 / Beginning Q4** – EuroCCP Go-live on Borsa Italiana
- **Q4 2018** – Turquoise Hardware Refresh
- **November 2018** – Borsa Italiana Release 9.3



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Q&A