



London
Stock Exchange Group

Technical User Group

Monday 9 April 2018



Agenda

- Introduction
- Technical Updates
- Business Update
- IDEM Release – SOLA 12
- Q&A



Technical Updates

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Technical Account Manager
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Technical Updates

- Turquoise – Hardware Refresh
- Turquoise – MITCH Decommission
- London Stock Exchange Group – Legacy CDS
- London Stock Exchange Group – Order Record Keeping Reminder
- London Stock Exchange Group – 2018 Timeline



Turquoise - Hardware Refresh

Turquoise – Hardware Refresh

- Hardware across the Turquoise Millennium trading platform will be refreshed.
- No impact to customer software or network configuration.
- This will be a big bang approach, no parallel run.
- Participation in Customer Dress Rehearsal and Go-Live Weekend is strongly recommended.
- Exact dates will be announced closer to the time, expected end of Q3.



Turquoise – MITCH Decommission

Turquoise – MITCH Decommission

- Group Ticker Plant (GTP) supports London Stock Exchange Group's real-time information services.
- Following the successful launch of GTP on the Turquoise market early last year, Turquoise has announced that Turquoise MITCH will be decommissioned on 1 July 2018.
- Turquoise members who have not yet migrated to GTP will need to prior to the decommission date.
- London Stock Exchange Group recommends provisioning connectivity in excess of 1Gb in readiness for GTP.
- 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>



London Stock Exchange Group – Legacy CDS

Legacy CDS

- A Legacy CDS environment will become available to customers, when the current CDS is upgraded with a new release.
- This service has already launched for the Derivative markets. LSE and Turquoise is due to be launched on 30 April 2018.
- A Legacy Sponsored Access Portal will follow end of June 2018. Confirmation of dates will be communicated in due course.
- Connectivity guides will also be updated in due course.
- All SAPs currently enabled for CDS, will automatically be enabled for Legacy CDS.
- Comp IDs will not be migrated to Legacy CDS.

Legacy CDS

- Go-live dates by markets:

Legacy CDS Market	Live Date
LSEDM Equity Derivatives	Launched
LSEDM Interest Rate Derivatives (CURVEGLOBAL)	Launched
Turquoise	30 April 2018
LSE	30 April 2018
LSE/Turquoise Sponsored Access Portals	June 2018

- LSEDM connectivity details are published in the latest LSEDM102 Connectivity Guide.
- Connectivity details for other market will be updated in their respective Connectivity Guides in due course.



London Stock Exchange Group – Order Record Keeping Reminder

Order Record Keeping Reminder

- In accordance with the rules of the LSEG markets, Trading Members are required to provide the association between the short code used on orders submitted to the trading platform and the related long code in order to comply with order record keeping requirements.
- Member firms should ensure all Short Code mappings for the day are registered in Member Portal by **18:00 UK time** each day.
- Post 18:00 UK time, the end of day reconciliation process is run between short codes submitted on order for the trading day and the Member Portal mappings.
- Following the EOD reconciliation process, a missing short code report will be available in member portal highlighting missing short codes for the given trading day.
- Member firms have until T+1 to upload missing codes. Any codes still missing after T+1 will be escalated to the LSE Market Abuse team.

Order Record Keeping Reminder

- Short Codes can be updated either:
 - Directly in Member Portal Short-Long Code Data Management screen
 - Bulk Upload via Member Portal
 - Bulk Upload via sFTP
- Member Firms can download daily missing code reports for the last five days in the Reports section on Member Portal.

File Name	Creation Date	
MissingShortCodes_33_L_20180322	2018-03-23 00:00	DownLoad
MissingShortCodes_33_L_20180323	2018-03-24 00:00	DownLoad
MissingShortCodes_33_L_20180326	2018-03-26 23:30	DownLoad
MissingShortCodes_33_L_20180328	2018-03-29 00:00	DownLoad

London Stock Exchange Group | [CC&G Legal Data](#) | [Turquoise Member Portal Terms & Conditions](#) | [LSE Member Portal Terms & Conditions](#) | [EuroTLX Legal Disclosure](#) | [Borsa Italiana Legal Info](#)



2018 Timeline

2018 Timeline

- **30 April 2018** - Launch of CurveGlobal® Three month SONIA Futures and accompanying Inter-Commodity Spreads between CurveGlobal® Three month SONIA Futures and Three month Sterling Futures.
- **End of April 2018** – Member Portal available for LSEDM Equity and Interest Rate Derivatives (CurveGlobal).
- **June 2018** – TRADEcho Release 10 Upgrade.
- **1 July 2018** – Turquoise MITCH Decommission.
- **Q3 2018** – Turquoise Hardware Refresh.
- **2nd Half 2018** – MIT Releases for Turquoise and London Stock Exchange and further TRADEcho releases.

Business Update

Tom Stenhouse
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Capital Markets



MiFID II – initial impressions and interactions

Thank you

- Huge effort by all involved in a smooth transition for the most significant change in European financial markets regulation in modern times

ESMA transparency and market structure data: tick sizes and LIS values

- Early MiFID II was characterised by a considerable number of tick size differences across venues
- Differences between venues is now largely resolved, noting ESMA Transitional Transparency Calculations (TTC) data still has anomalous data and setting tick sizes and LIS values for new ISINs subject to inefficiencies

RTS 8 – market making agreements

- London Stock Exchange: 14 market makers with over 5,000 aggregate registrations
- Turquoise: 6 market makers with just under 5,000 aggregate registrations

RTS 24 – short/long code mapping

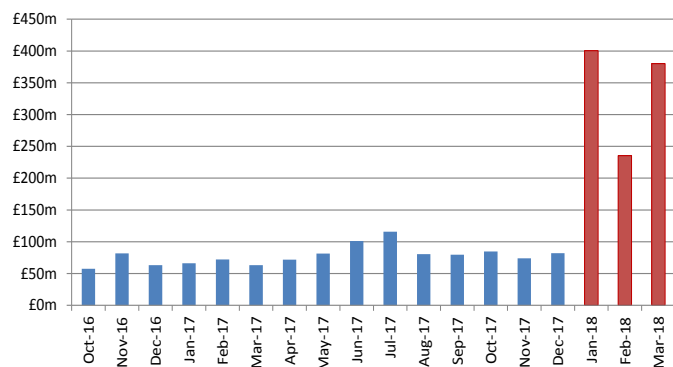
- 1.4m short/long code mappings received across London Stock Exchange and Turquoise
 - Of which 84% are Client LEIs, 8% Natural Persons, 8% Algorithms
 - But still some mappings pending...

MiFID II impact on trading volume

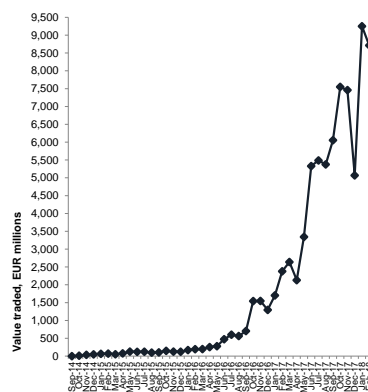
ESMA Volume Cap Mechanism

- On 9 January 2018, ESMA announced a delay publication of the data on the Double Volume Cap ('DVC') mechanism for January 2018 due to collection of an incomplete dataset.
- On 7 March 2018, the first DVC-related pre-trade transparency waiver suspensions
 - 680 London Stock Exchange Liquid instruments impacted by Negotiated Trade Waiver suspension, 714 Turquoise instruments impacted by Reference Price Waiver suspension
- Since MiFID II and the DVC, strong growth in Large In Scale waiver trading and periodic auction mechanisms

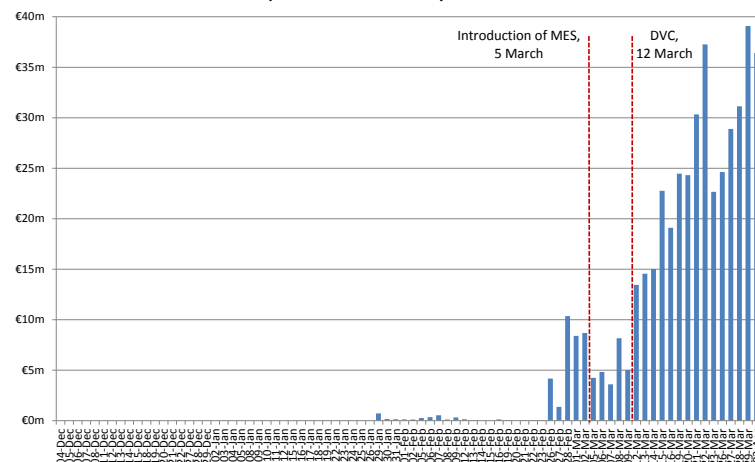
**London Stock Exchange
Mid-point Pegged Order Value Traded**



Turquoise Plato Block Discovery™ Value Traded



Turquoise Lit Auctions™ Daily Value Traded





IDEM Release (SOLA 12)

Roberto Fumagalli
Technical Account Manager
Client Technology Services – Italy



New Features

- Deferred Publication
- New Throttling Mechanism
- Package Transaction Waiver

Deferred Publication (1)

- The Deferred Publication functionality allows market participants to request to delay via the market data feed services available (GTP and HSVF) the publication of trade information
- This possibility is reserved to Bundle Orders and Cross Orders/Block Trades (bilateral negotiated transactions) where characteristics of the Trade are in line with exemption to immediate Post-Trade Transparency
- The publication of the trade can be deferred if:
 - The deferred publication is enabled on the instrument
 - The size of the trade is above the minimum required
 - At least one of the two counterparties has requested to defer the Trade

Deferred Publication (2)

- When a Negotiated Transaction is executed:
 - executed Trades are sent to the clearing system, and
 - Member Firms receive technical messages confirming trade execution and indicating whether Negotiated Transaction details have been published immediately or deferred
- Details of the trade will be disseminated via the market data feed services available at the beginning of the ‘mini-batch’ phase
- Deferred trades are marked with a specific post-trade flag in the market data feed (“Deferral flag” and “Deferral Flag Marker” field in HSVF)
- a new field “Post Trade LIS Volume” (option/future instrument keys) is provided in Reference Data indicating the minimum size configured to accept a Deferred Publication request, expressed in number of lots

Deferred Publication – Protocols Changes

The Deferred Publication of a trade can be requested:

- Via SAIL Protocol
 - in the “Cross Entry” and “Bundle Order” messages via the *Deferred Publication* field
 - the “Execution Notice” message will report the same *Deferred Publication* field together with the *Deferral Flag* to indicate whether deferred publication happened under the MiFID 2 “Large in Scale” Post-Trade Deferral
- Via FIX Protocol
 - in the “Trade Capture Report” and “New Order Cross” messages via the *TradePublishIndicator* field
 - the “Execution Report message will report the same *TradePublishIndicator* field together with the *TrdRegPublicationReason* field

New Throttling Mechanism

- Trading Users on SOLA platform are configured with a maximum number of tps (transactions per second) allowed; currently transactions which exceed the maximum number of tps allowed are **queued** and processed the following second available
 - Customers loose control on their orders/quotes once queued
 - Cancellation/mass cancellation of an order/quote queued is not possible
- With SOLA 12 it will be (optionally) possible to reject messages which exceed the maximum number of tps allowed
- The system will be initially configured to maintain the existing or the new throttling mechanism at user choice, at the level of each User ID
- A specific migration plan from the current to the new throttling mechanism will be agreed with each customer

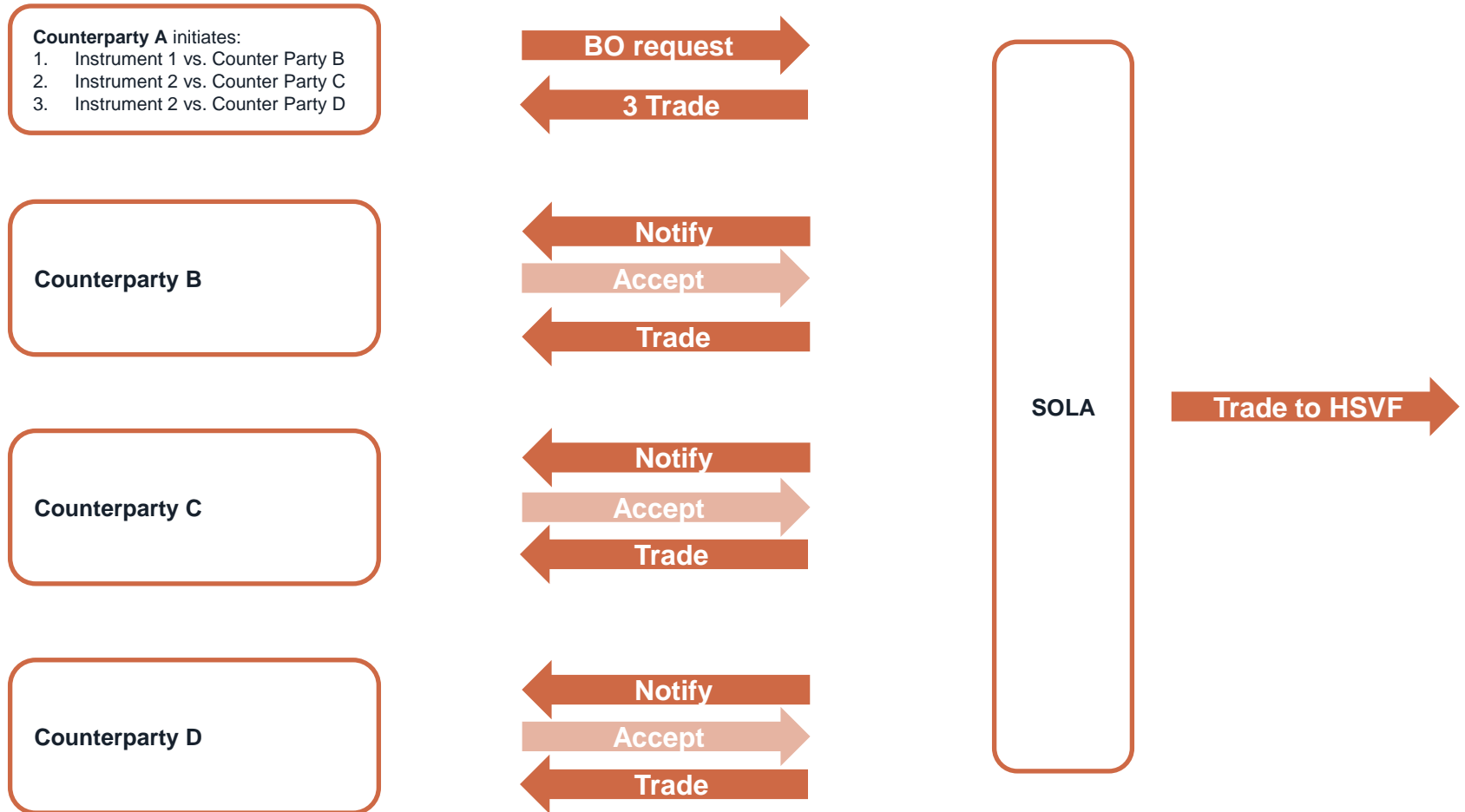
Package Transaction Waiver

- Currently, all the legs of a Bilateral Negotiated Transaction must individually be above their respective LIS threshold in order to be accepted by the system
- With SOLA 12 it will be possible to execute Bilateral Negotiated Transaction under the MiFIR / MiFID 2 “Package Order” Pre-Trade Waiver
 - With this enhancement, Negotiated Transactions are accepted if at least one of the leg has a size above the Pre-Trade “Large-in-Scale” (LIS) threshold defined by MiFIR / MiFID 2 that permit exemption to pre-trade transparency
- On IDEM market, **this waiver can be accessed using the Bundle Order functionality**

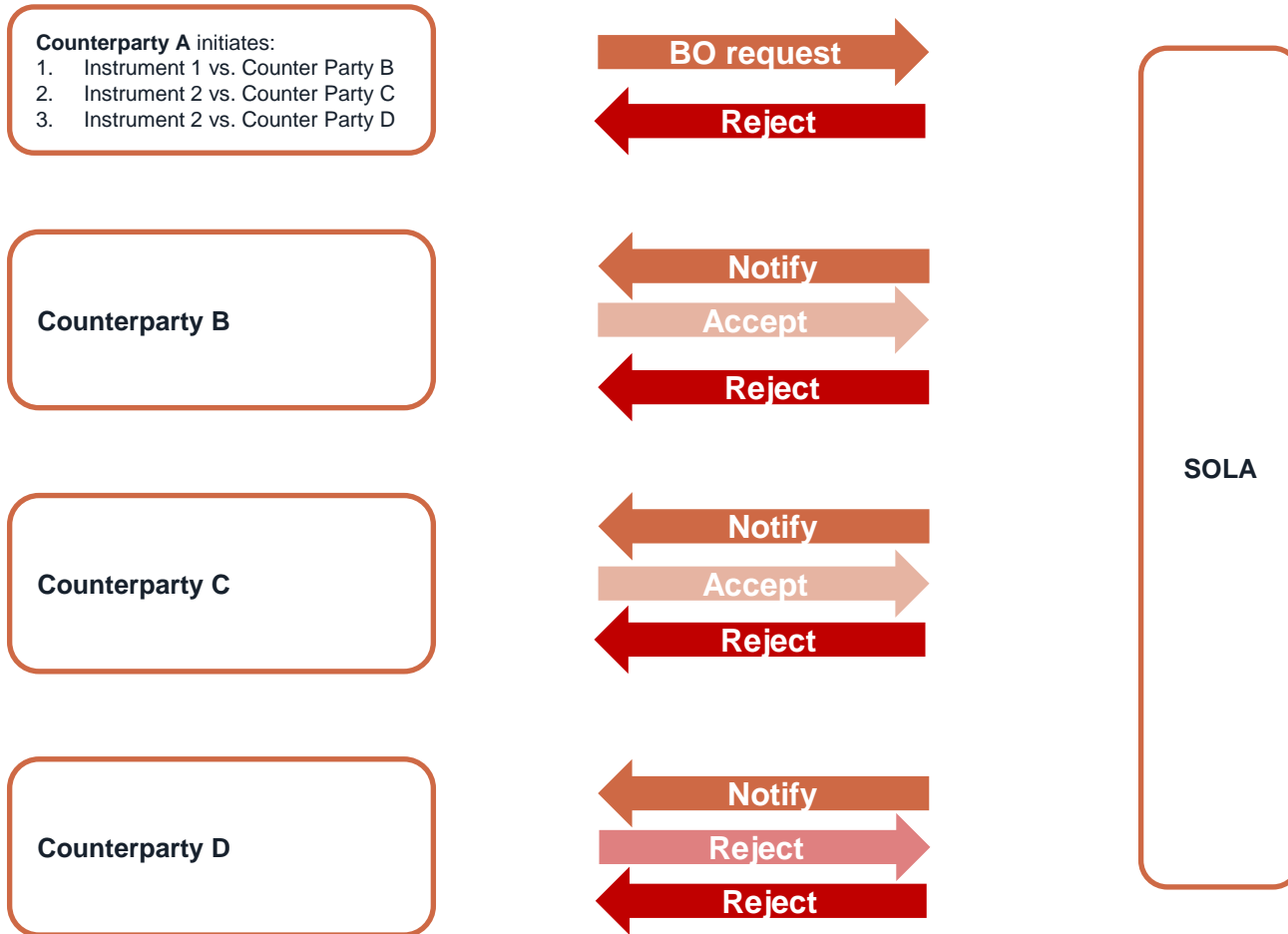
Bundle Order (1)

- Bundled Orders allow traders to group up to 4 committed cross orders on different Instrument Series (one per cross order) within the same transaction to different counterparties (one per cross order), offering certainty of simultaneous execution of all the individual trade reports included in the BO, or no execution at all
- Bundled Orders will require traders to specify price, size, counterparty and Instrument Series for each order
- A Bundled Order is executed only if all the legs can be executed, that is if all counterparties have accepted

Bundle Order (2)



Bundle Order (3)



Package Transaction Waiver – Protocol Changes

From a trading perspective, the Package Transaction Waiver is specified:

- on the SAIL protocol, in “Execution Notice” messages with the *Waiver Indicator Flag* and *PTT Trade Types Flag* fields
- on the FIX protocol in “Execution Report” messages (tags 2669 and 2670, *TrdRegPublicationType* and *TrdRegPublicationReason*)

From a market data feed perspective, the Package Transaction Waiver is notified:

- Via HSVF in the *PTT Trade Type* field in the Trade (Option, Future, Strategy) message (value *TPAC*)
- Via GTP in the *PTTransTypeFlag* field in the MiFID II Trade message

Timeline

- **March 2018:** publication of the Technical specification updated for SOLA 12
<http://www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazioneidem/migrazioneidem.en.htm>
- **3 April 2018:** availability of SOLA 12 CDS environment
 - Legacy CDS (with SOLA 11 version) is also available for tests on the current production release
- Customer Dress Rehearsal Target Date: **12 May 2018** (TBC)
- Go-Live Target Date: **26 May 2018** (TBC , subject to customers' readiness)
- Conformance test approach:
 - mandatory for all proprietary applications/ISVs implemented with native protocol;
 - mandatory for all proprietary applications/ISVs implemented with FIX protocol just in case Cross Order, Bundle Orders e Third Party Trade functionalities are supported;
 - The self certification for all the application which gets market data feed via HSVF service



GTP Update

New GTP Release (1)

- Together with SOLA 12, a new release of GTP will be delivered in production
- Main changes are:
 - Change of the layout of the “**Announcements**” message
 - New Security Sub-Types for Borsa Italiana Cash Equity and Fixed Income Markets and EuroTLX
- In CDS since April 3rd 2018
- Documentation published on March 20th
- Live with SOLA 12

New GTP Release (2)

- Change of the layout of the “**Announcements**” message (0x75):
 - changes will be introduced in order to disseminate stressed market conditions on IDEM (replicating what already done by HSVF)
 - new values (Stressed Market Condition Start/End, Stressed Market Obligations Start/End) will be disseminated for the “Announcement Type” field
 - new field (“Flags”) for indicating the concatenation of messages (when the *Text* field exceed the available 120 chars)

New GTP Release (3)

- New **Security Sub-Types** for Borsa Italiana Cash Equity and Fixed Income Markets and EuroTLX:
 - values of the **Security Sub-Types** field in **Instrument Directory** messages will be aligned to values listed in MIT 305 Reference Data Files for
 - Borsa Italiana Cash Equity and Fixed Income Markets
 - EuroTLX
 - this will increase service flexibility and scalability (Security Sub-Types will be uniquely defined at Trading venue level)

“C” Feed (1)

- **In case of Disaster Recovery Invocation** on GTP and GTP Lite services for Borsa Italiana markets running on the MIT platform and for ETLX markets, **market data will be disseminated exclusively via Feed C** (the Tertiary Feed)
- Feed C:
 - is available for MTA, MIV, MOT, SeDeX, AIM Italia-MAC, ETFplus, TAH, Blt GEM and EuroTLX channels
 - is not available for IDEM (and FTSE) channels

“C” Feed (2)

- Feed C (continued):
 - is generated in the Secondary Data Centre (SDC) independently from Feed A and B
 - consequently, it has different sequence numbers and for snapshot Service Lines (TOB, MBO, MBP, FDI and PT), Feed C snapshot will be not be synchronized with Feed A and B ones
 - is always available, not only in case of failover of the service
 - allows to keep receiving data for the above listed markets in case of unavailability of Feed A and B (generated in PDC)

“C” Feed (3)

- Feed C (continued):
 - in case of failover, the Market Data Group *might* (not necessarily) be amended (from upper case to lower case) for each channel therefore followed by the reset of *Sequence Numbers* to 1 (reset of *Sequence Numbers* is a documented behavior in case of modification of the Market Data Group)
 - includes:
 - dedicated multicast groups (one for each pair of ‘Service Line-Channel’)
 - dedicated IP and ports for Reply and Recovery services (an IP and Port for each pair of ‘Service Line-Channel’)
 - dedicated IP and ports for GTP Lite services (an IP and Port for each pair of ‘Service Line-Channel’)



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Q&A