



Global Technical Committee

MiFID II RTS 28 Gap Analysis

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Table of Contents

1	Introduction	5
1.1	Summary of Changes.....	5
2	Business Requirements.....	6
3	Issues and Discussion Points.....	11
4	Proposed Message Flow	12
5	FIX Message Tables.....	13
5.1	FIX Message – MarketDataStatisticsReport	13
6	FIX Component Blocks	15
6.1	Component - MDStatisticParameters	15
	Appendix A - Data Dictionary.....	19
	Appendix B - Glossary Entries	22
	Appendix C - Abbreviations.....	22
	Appendix D - Usage Examples.....	23

1 Introduction

The purpose of this document is to provide FIX gap analysis for MiFID II RTS 28 specified reporting requirements. The document is to be used in conjunction with Best Execution reporting guidelines document.

The following documents are used as references and input to this gap analysis document:

1. ESMA RTS documents reference via this link:
http://ec.europa.eu/finance/docs/level-2-measures/mifid-rts-28_en.pdf
2. ESMA RTS 28 Annex
http://ec.europa.eu/finance/docs/level-2-measures/mifid-rts-28-annex_en.pdf
3. Recommended Practices for Best Execution Reporting –
http://www.fixtradingcommunity.org/pg/file/fplpo/read/3965459/fix-mifid-recommended-practices_best-execution-reporting_draft
4. RTS 28 Mapping spreadsheet - MIFID_II_RTS28_FIXMappings v4

1.1 Summary of Changes

Below is a summary list of all the proposed extensions:

Components:

Addition of existing component <NestedParties> to component <MDStatisticParameters> in MarketDataStatisticsReport(35=DP) to publish MICs for execution venues.

Fields:

Addition of existing field CustOrderCapacity(582) to MarketDataStatisticsReport(35=DP) to distinguish between the client types (retail vs professional).

Addition of existing field AnnualTradingBusinessDays(2584) to component <MDStatisticParameters> to provide the number of business days used in the calculation of the statistic value.

Valid values:

- New valid value for field InstrAttribType(871) to describe if an instrument is available for trading at a venue.
- New valid value for PartySubIDType(803) to support LEI for a trading firm.
- New valid value for MDStatisticScope(2457) to support trade volume as a basis for statistics
- New valid values for MDStatisticSubScope(2458) to support new sub-scope values (Executed, Aggressive, and Directed)
- New valid values for MDStatisticRatioType(2472) to support new types of ratios (Trade volume to total trade volume, Orders to total number of orders)

- New valid value for SecurityType(167) to support depository receipts.

2 Business Requirements

The table below describes the regulatory requirements driving the extensions along with the proposed solution:

Table 1: Summary of proposed solution

#	Subject	Reference	Regulatory Text (from source RTS)	Proposed Solution
1	Best Exec Reporting – Retail vs Professional clients	RTS 28, Article 3 (1)	<i>Article 3 (1): “Information regarding retail clients shall be published in the format set out in Table 1 of Annex II and information regarding professional clients shall be published in the format set out in Table 2 of Annex II”</i>	Client order capacity is currently supported over FIX through an existing field CustOrderCapacity(582). In order to distinguish between the client types per report, it is proposed to add CustOrderCapacity(582) in MarketDataStatisticsReport(35=DP) message.
2	Best Exec Reporting – Trade Volume	RTS 28, Article 3 (1) (c)	<i>Article 3 (1)(c): “volume of client orders executed on that execution venue expressed as a percentage of total executed volume”</i>	MDStatisticType(2456): 5=Ratio MDStatisticScope (2457): 36tbd=Trade volume MDStatisticRatioType(2472): 11tbd=Trade volume to total trade volume
3	Best Exec Reporting – Executed orders	RTS 28, Article 3 (1) (d)	<i>Article 3 (1)(d) “number of client orders executed on that execution venue expressed as a percentage of total executed orders”</i>	MDStatisticType(2456): 5=Ratio MDStatisticScope (2457): 5=Orders MDStatisticSubScope (2458): 12tbd = Executed [Also identified in RTS 27 GA] MDStatisticRatioType(2472): 12tbd=Orders to total number of orders
4	Best Exec Reporting – Aggressive orders	RTS 28, Article 3 (1) (e)	<i>Article 3(1)(e) “percentage of the executed orders referred to in point (d) that were passive and aggressive orders”</i>	MDStatisticType(2456): 5=Ratio MDStatisticScope (2457):

#	Subject	Reference	Regulatory Text (from source RTS)	Proposed Solution
				5=Orders MDStatisticSubScope (2458): 5=Passive 32tbd = Aggressive MDStatisticRatioType(2472): 12tbd=Orders to total number of orders
5	Best Exec Reporting – Directed orders	RTS 28, Article 3 (1)(f)	<i>Article 3(1)(f) “percentage of orders referred to in point (d) that were directed orders”</i>	MDStatisticType(2456): 5=Ratio MDStatisticScope (2457): 5=Orders MDStatisticSubScope (2458): 33tbd = Directed MDStatisticRatioType(2472): 12tbd=Orders to total number of orders
6	Best Exec Reporting – Trade per business day	RTS 28, Article 3 (1)(g)	<i>Article 3(1)(g) “confirmation of whether it has executed an average of less than one trade per business day in the previous year in that class of financial instruments”</i>	MDStatisticType(2456): 1=Count MDStatisticScope (2457): 8=Trades In order to specify the number of business days in a year, it is proposed to add AnnualTradingBusinessDays(2584) within the component <MDStatisticParameters>
7	Best Exec Reporting – Execution venues	RTS 28, Article 3 (1)	<i>Article 3(1) “Investment firms shall publish the top five execution venues in terms of trading volumes for all executed client orders per class of financial instruments referred to in Annex I”</i>	It is being proposed to add existing component <NestedParties> within the component <MDStatisticParameters> in order to specify the top 5 execution venues as a filter criteria for the reported statistical value.
8	Best Exec Reporting – Generic	RTS 28	<i>Ability to define if the instrument is available for trading at a venue.</i>	InstrAttribType(871): 39tbd=Admitted to trading on a trading venue InstrAttribValue(872):

#	Subject	Reference	Regulatory Text (from source RTS)	Proposed Solution
				Yes/No
9	Best Exec Reporting – Class of financial instruments	RTS 28, Annex 1	<p><i>(a) Equities – Shares & Depository Receipts</i></p> <p><i>(i) Tick size liquidity bands 5 and 6 (from 2000 trades per day)</i></p> <p><i>(ii) Tick size liquidity bands 3 and 4 (from 80 to 1999 trades per day)</i></p> <p><i>(iii) Tick size liquidity band 1 and 2 (from 0 to 79 trades per day)</i></p> <p><i>(b) Debt instruments</i></p> <p><i>(i) Bonds</i></p> <p><i>(ii) Money markets instruments</i></p> <p><i>(c) Interest rates derivatives</i></p> <p><i>(i) Futures and options admitted to trading on a trading venue</i></p> <p><i>(ii) Swaps, forwards, and other interest rates derivatives</i></p> <p><i>(d) credit derivatives</i></p> <p><i>(i) Futures and options admitted to trading on a trading venue</i></p> <p><i>(ii) Other credit derivatives</i></p> <p><i>(e) currency derivatives</i></p> <p><i>(i) Futures and options admitted to trading on a trading venue</i></p> <p><i>(ii) Swaps, forwards, and other currency derivatives</i></p> <p><i>(f) Structured finance instruments</i></p> <p><i>(g) Equity Derivatives</i></p> <p><i>(i) Options and Futures admitted to trading on a trading venue</i></p> <p><i>(ii) Swaps and other equity derivatives EN 3 EN</i></p> <p><i>(h) Securitized Derivatives</i></p> <p><i>(i) Warrants and Certificate Derivatives (ii) Other</i></p>	<p><u>Equities:</u> ProductComplex(1227): Equities – Shares and Depository receipts</p> <p><u>(optional)SecurityType(167):</u> CS=Common Stock DR=Depository Receipts</p> <p><u>SecurityGroup(1151):</u> <u>Tick size liquidity bands 5 and 6</u> <u>Tick size liquidity bands 3 and 4</u> <u>Tick size liquidity bands 1 and 2</u></p> <p><u>Debt Instruments:</u> ProductComplex(1227): Debt</p> <p>SecurityGroup(1151): Bonds Money Market instruments</p> <p><u>Interest rate derivatives:</u> ProductComplex(1227): Interest rate derivatives</p> <p>SecurityGroup(1151): <u>Futures and options admitted to trading on a trading venue</u> <u>Swaps, forwards, and other interest rate derivatives</u> <u>Exchange traded</u> <u>OTC (over the counter)</u></p> <p><u>Credit derivatives:</u> ProductComplex(1227): Credit derivatives</p> <p>SecurityGroup(1151): <u>Futures and options admitted to trading on a trading venue</u> <u>Exchange</u></p>

#	Subject	Reference	Regulatory Text (from source RTS)	Proposed Solution
			<p><i>securitized derivatives</i></p> <p><i>(i) Commodities derivatives and emission allowances Derivatives</i></p> <p><i>(i) Options and Futures admitted to trading on a trading venue</i></p> <p><i>(ii) Other commodities derivatives and emission allowances derivatives</i></p> <p><i>(j) Contracts for difference</i></p> <p><i>(k) Exchange traded products (Exchange traded funds, exchange traded notes and exchange traded commodities)</i></p> <p><i>(l) Emission allowances</i></p> <p><i>(m) Other instruments</i></p>	<p>traded</p> <p><u>Other credit derivatives</u>OTC (over the counter)</p> <p><u>Currency derivatives:</u> ProductComplex(1227): Currency derivatives</p> <p><u>SecurityGroup(1151):</u> <u>Futures and options admitted to trading on a trading venue</u>Exchange traded <u>Swaps, forwards, and other currency derivatives</u>OTC (over the counter)</p> <p><u>Structured finance instruments:</u> ProductComplex(1227): Structured finance <u>instrument</u></p> <p><u>Equity Derivatives:</u> ProductComplex(1227): Equity derivatives</p> <p><u>SecurityGroup(1151):</u> <u>Futures and options admitted to trading on a trading venue</u>Exchange traded <u>Swaps, forwards, and other currency derivatives</u>OTC (over the counter)</p> <p><u>Securitized Derivatives:</u> ProductComplex(1227): Securitized derivatives</p> <p>(optional)<u>SecurityType(167):</u> WAR=Warrant CD=Certificate of Deposit</p> <p><u>SecurityGroup(1151):</u> <u>Warrants and certificates derivatives</u> <u>Other securitized derivatives</u>OTC (over the</p>

#	Subject	Reference	Regulatory Text (from source RTS)	Proposed Solution
				<p>counter)</p> <p><u>Commodities Derivatives:</u> ProductComplex(1227): Commodities derivatives and emission allowances derivatives</p> <p><u>SecurityGroup(1151):</u> Futures and options admitted to trading on a trading venueExchange traded Swaps, forwards, and other currency derivativesOTC (over the counter)</p> <p><u>Contracts for Difference:</u> ProductComplex(1227): Contract for Differences</p> <p><i>(optional)</i><u>SecurityType(167):</u> CFD=Contract for Differences</p> <p><u>Exchange traded products:</u> ProductComplex(1227): Exchange traded products (exchange traded funds, exchange traded commodities)</p> <p><u>SecurityGroup(1151):</u> Funds Notes Commodities</p> <p><u>Emission Allowances:</u> ProductComplex(1227): Emission Allowances</p> <p><u>Other:</u> ProductComplex(1227): Other instruments</p>

3 Issues and Discussion Points.

#	Subject	Reference	Change Request	Issue / Resolution
1	Client type – Retail vs professional	RTS 28 (9)	<p>Ability to distinguish different client types i.e. retail vs professional required in RTS 28 (9) which says <i>“information on the top five execution venues be provided separately for retail clients and for professional clients respectively, permitting a qualitative assessment to be made of the order flow to such venues”</i></p> <p>This can be covered by adding an existing field CustOrderCapacity(582) at the root level of the MarketDataStatisticsReport(35=DP) message. The existing enumeration “5=Retail customer” will specify retail client type but an enumeration specifying professional client is also needed.</p> <p>Options include to re-use an existing enumeration “1=Member trading for their own account” or issue a new value for professional customer.</p>	<p>Open.</p> <p>Enumeration for professional client still needs to be decided.</p>
2	SFT	RTS 28 (10)	<p>Ability to identify SFTs (Securities financing transactions) required by RTS 28 to be published as a separate report <i>“appropriate that investment firms summarize and make public the top five execution venues in terms of trading volumes where they executed SFTs in a separate report so that that a qualitative assessment can be made of the order flow to such venues.”</i></p> <p>One option is to include TrdType(828)=47 (Financing transaction) in the MarketDataStatisticsReport(35=DP) message.</p>	<p>Open.</p>
3	Classes of financial instruments	RTS 28, Annex I	<p>Ability to identify class of financial instruments required by RTS 28, Annex 1.</p>	<p>Closed.</p> <p>It is suggested to use ProductComplex(1227) and</p>

#	Subject	Reference	Change Request	Issue / Resolution
			It is suggested to use both SecurityType(167) and risk taxonomy tags – AssetClass(1938) and AssetSubClass(1939) to specify the class of the instrument.	SecurityGroup(1151) to define the class of financial instruments. SecurityType(167) can be used optionally.

4 Proposed Message Flow

Three separate reports identifying retail clients, professional clients, and Securities financing transactions (SFTs) will be published annually per instrument class. The reports will specify statistics regarding different types of order flow executed for top five execution venues.

5 FIX Message Tables

5.1 FIX Message – MarketDataStatisticsReport

To be completed at the time of the proposal – all information provided will be stored in the repository	
Message Name	MarketDataStatisticsReport
Message Abbreviated Name (for FIXML)	MDStatsRpt
Category	MarketData
Action	
Message Synopsis	The MarketDataStatisticsReport(35=DP) is used to provide unsolicited statistical information or in response to a specific request. Each report contains a set of statistics for a single entity which could be a market, a market segment, a security list or an instrument.
Message Elaboration	__New __XChange
To be finalized by FPL Technical Office	
(MsgType(tag 35) Enumeration)	DP
Repository Component ID	152

Tag	Field Name	Req'd	FIX Spec Usage Comments	Action	Gap Analysis Comments
	<StandardHeader>	Y	MsgType = DP		
	<ApplicationSequenceControl>	N	The ApplicationSequenceControl is used for application sequencing and recovery.		
<i>(...truncated...)</i>					
	<Parties>	N	Specifies information related to the reporting entity and its trading platforms.		

582	CustOrderCapacity	N		ADD	Describes capacity of the client placing the order. In the context of ESMA RTS 28, differentiates between retail vs professional clients.
75	TradeDate	N	Indicates date of trading day. Absence of this field indicates current day (expressed in local time at place of trade).		
<i>(...truncated...)</i>					
	<Instrument>	N	The Instrument component block contains all the fields commonly used to describe a security or instrument.		
<i>(...truncated...)</i>					
	<MDStatisticRptGrp>	Y	Specifies the resulting statistics information and corresponding statistical parameters.		
60	TransactTime	N			
58	Text	N			
354	EncodedTextLen	N	Must be set if EncodedText(355) field is specified and must immediately precede it.		
355	EncodedText	N	Encoded (non-ASCII characters) representation of the Text(58) field in the encoded format specified via the MessageEncoding(347) field.		
	<StandardTrailer>	Y	The standard FIX message trailer		

6 FIX Component Blocks

6.1 Component - MDStatisticParameters

To be completed at the time of the proposal – all information provided will be included in the repository	
Component Name	MDStatisticParameters
Component Abbreviated Name (for FIXML)	StatsPrm
Component Type	<input type="checkbox"/> Block Repeating <input checked="" type="checkbox"/> Block
Category	(no change)
Action	<input type="checkbox"/> New <input checked="" type="checkbox"/> Change
Component Synopsis	<p>This component block comprises all parameters that can be used to describe the market data statistics. These can be part of the request as well as the response. All parameters defined on the MarketDataStatisticsRequest(35=DO) message should be echoed in the MarketDataStatisticsReport(35=DP) message as the latter could also be sent unsolicited.</p> <p>The general category and the entities involved in the statistics are defined by MDStatisticType(2456), MDStatisticScope(2457), and MDStatisticIntervalType(2464) and must always be specified. The remaining fields are optional and restrict the data range in one way or another. The time range for the data can either be specified in terms of an interval for which the statistics are typically calculated on a regular basis or in terms of an absolute date and/or time range.</p>
Component Elaboration	(no change)
To be finalized by FPL Technical Office	
Repository Component ID	2250

Tag	Field Name	Req'd	FIX Spec Usage Comments	Action	Gap Analysis Comments
2456	MDStatisticType	Y			
2457	MDStatisticScope	Y			
2458	MDStatisticSubScope	N			
2459	MDStatisticScopeType	N			
2454	MDStatisticName	N			
2455	MDStatisticDesc	N			Describes the

Tag	Field Name	Req'd	FIX Spec Usage Comments	Action	Gap Analysis Comments
					statistic reported in the component.
	(...truncated...)				
2460	MDStatisticFrequencyPeriod	N	Conditionally required when MDStatisticFrequencyUnit (2461) is specified. Omission represents a one-time dissemination.		
2461	MDStatisticFrequencyUnit	N	Conditionally required when MDStatisticFrequencyPeriod(2460) is specified.		
2462	MDStatisticDelayPeriod	N	Conditionally required when MDStatisticDelayUnit(2463) is specified.		
2463	MDStatisticDelayUnit	N	Conditionally required when MDStatisticDelayPeriod(2462) is specified.		
2464	MDStatisticIntervalType	Y			
2465	MDStatisticIntervalTypeUnit	N	Conditionally required when MDStatisticIntervalType (2464) = 5(Current time unit), 6(Previous time unit) or 8(Maximum range up to previous time unit).		
2466	MDStatisticIntervalPeriod	N	Conditionally required if/when MDStatisticIntervalUnit(2467) is specified. Conditionally required when MDStatisticIntervalType(2464) = 1 (Sliding window) or 2 (Sliding window peak).		
2467	MDStatisticIntervalUnit	N	Conditionally required when MDStatisticIntervalPeriod(2466) is specified.		
2468	MDStatisticStartDate	N	Can be used to define a date range for a sliding window peak other than the current day. Omission represents a date range		Start date of the reporting period.

Tag	Field Name	Req'd	FIX Spec Usage Comments	Action	Gap Analysis Comments
			starting with the first available day.		
2469	MDStatisticEndDate	N	Can be used to define a date range for a sliding window peak other than the current day. Omission represents a date range including the current day.		End date of the reporting period.
2470	MDStatisticStartTime	N	Can be used to define a time range for a sliding window peak other than the complete day. Omission represents a time range starting at midnight.		Start time is the first timestamp inside of the range.
2471	MDStatisticEndTime	N	Can be used to define a time range for a sliding window peak other than the complete day. Omission represents a time range ending with the time of dissemination of the statistical data.		End time is the first timestamp outside of the range.
2472	MDStatisticRatioType	N	Conditionally required when MDStatisticType(2456) = 5(Ratio).		
	<NestedParties>	N		ADD	May be used to specify nested parties acting as a filter criteria for reported statistical value.
2584	AnnualTradingBusinessDays	N		ADD	Number of trading business days in a year.
<i>(...truncated...)</i>					
336	TradingSessionID	N			
625	TradingSessionSubID	N			

7 Category Changes

(no changes)

8 FIX Specification Errata

This section includes errata from prior versions and extension packs (EP) that are being implemented as corrections as part of this extension pack.

<u>JIRA Item</u>	<u>Affected EP/Version</u>	<u>Synopsis of change.</u>
SPEC-2302	EP161	Error in short description for TradeRegTimestampType(770)=22
SPEC-2277	FIX 5.0 SP2	Correct enumeration description for PartyIDSource(447)=G (MIC)
SPEC-2311	EP231	Clarify enum description for MiscFeeType(139)=24
SPEC-2312	EP231	Add missing Currency(15) field to MarketDataStatisticsReport(35=DP) message
SPEC-2314	EP232	Change XML abbr for xxxFinancialInstrumentFullName fields to drop the Finclnstrmt part

Appendix A - Data Dictionary

Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
582	CustOrderCapacity	ADD	int	Capacity of customer placing the order.	@CustCpcty	Add to: MarketDataStatisticsReport (35=DP)
2584	AnnualTradingBusinessDays	ADD	int	Number of trading business days in a year	@AnnITrdgBizDays	Add to: MDStatisticParameters
871	InstrAttribType	Change	int	Code to represent the type of instrument attribute. <u>Valid values:</u> 1 = Flat 2 = Zero Coupon 39tbd = Admitted to trading on a trading venue		
803	PartySubIDType	Change	int	Type of PartySubID(523) value. <u>Valid values:</u> 1 = Firm 2 = Person tbd = Legal Entity Identifier		
167	SecurityType	Change	int	Indicates type of security. <u>Valid values:</u>		

Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
				<p><u>Equity</u> CS = Common Stock PS = Preferred Stock</p> <p>...</p> <p>DRtbd = Depository Receipts</p>		
2457	MDStatisticScope	Change	int	<p>Entities used as basis for the statistics.</p> <p><u>Valid values:</u> 1 = Bid prices 2 = Offer prices</p> <p>...</p> <p>36tbd = Trade volume [Elaboration: Quantity traded]</p>		
2458	MDStatisticSubScope	Change	int	<p>Sub-scope of the statistics to further reduce the entities used as basis for the statistics.</p> <p><u>Valid Values:</u> 1 = Visible 2 = Hidden</p> <p>...</p> <p>tbd = Executed [Elaboration: Total or partial execution of an order or quote] <i>This value is also identified as a gap in RTS 27-GA</i></p>		

Tag	FieldName	Action	Datatype	Description	FIXML Abbreviation	Add to / Deprecate from Message type or Component block
				<p>32 = Aggressive [Elaboration: Order or Quote entered into the order book that took liquidity]</p> <p>33 = Directed [Elaboration: An order where execution venue is specified by the client]</p>		
2472	MDSStatisticRatioType	Change	int	<p>Ratios between various entities.</p> <p>Valid values: 1 = Buyers to sellers 2 = Upticks to downticks</p> <p>...</p> <p>11 = Trade volume to total traded volume [Elaboration: Total value of failed trades over total traded value]</p> <p>12 = Orders to total number of orders [Elaboration: Orders pertaining to a type over total number of orders]</p>		

Appendix B - Glossary Entries

Term	Definition	Field where used

Appendix C - Abbreviations

Term	Proposed Abbreviation	Proposed Messages, Components, Fields where used

Appendix D - Usage Examples

The following tables show excerpts from a reference mapping between ESMA and FIX for the reporting requirements defined in RTS 28. Further details are available in the spreadsheet (Excel file) referenced in Item 4 in Chapter 1 "Introduction". The separate spreadsheet file will be updated with the actual tag numbers and valid values once they have been assigned as part of the standard FIX implementation process for Extension Packs.

D.1 Overview of RTS 28 Annex II and sample table

FIX Tags		1	2	3
Attributes - >	Req' D	Average trades per business day in the previous year (1g)	Proportion of volume traded as a percentage of total (1c)	Proportion of orders executed as percentage of total (1d)
SecurityType(167)	N			
ProductComplex(1227)	Y			
SecurityGroup(1151)	N			
InstrAttribType(871)	Y	<u>39<tbd></u> =Admitted to trading on a trading venue	<u>39<tbd></u> =Admitted to trading on a trading venue	<u>39<tbd></u> =Admitted to trading on a trading venue
InstrAttribValue(872)	Y	Y/N	Y/N	Y/N
NoParties(453)	Y	1	1	1
> PartyID(448)	Y	<LEI or MIC>	<LEI or MIC>	<LEI or MIC>
> PartyIDSource(447)	Y	G=MIC N=LEI	G=MIC N=LEI	G=MIC N=LEI
> PartyRole(452)	Y	116=Reporting Entity	116=Reporting Entity	116=Reporting Entity
> NoPartySubIDs(802)	Y	1	1	1
>> PartySubID(523)	Y	<LEI>	<LEI>	<LEI>
>> PartySubIDType(803)	Y	<u>84<tbd></u> =Legal Entity Identifier	<u>84<tbd></u> =Legal Entity Identifier	<u>84<tbd></u> =Legal Entity Identifier

FIX Tags		1	2	3
CustOrderCapacity(582)	Y	1=Member for their own trading account 5=Retail customer	1=Member for their own trading account 5=Retail customer	1=Member for their own trading account 5=Retail customer
NoMDStatistics(2474)	Y	1	5	5
> MDStatisticType(2456)	Y	1=Count	5=Ratio	5=Ratio
> MDStatisticScope(2457)	Y	8=Trades	36 =Trade volume	5=Orders
> MDStatisticSubScope(2458)	N	N/A	N/A	12 =Executed
> MDStatisticDesc(2455)	Y	"Number of trades per business day"	"Proportion of volume traded on a venue as a percentage of total volume"	"Proportion of orders executed on a venue as a percentage of total"
> MDStatisticIntervalType(2464)	Y	3=Fixed date range	3=Fixed date range	3=Fixed date range
> MDStatisticStartDate(2468)	Y	<1.1.YYYY>	<1.1.YYYY>	<1.1.YYYY>
> MDStatisticEndDate(2469)	Y	<31.12.YYYY>	<31.12.YYYY>	<31.12.YYYY>
> MDStatisticFrequencyPeriod(2460)	Y	1	1	1
> MDStatisticFrequencyUnit(2461)	Y	15=Years	15=Years	15=Years
> MDStatisticRatioType(2472)	Y	N/A	11 =Trade volume to total trade volume	12 =Orders to total number of orders
>> NoNestedPartyIDs(539)		N/A	1	1
>> NestedPartyID(524)	N	N/A	<Venue MIC>	<Venue MIC>
>> NestedPartyIDSource(525)	N	N/A	G=MIC	G=MIC
>> NestedPartyRole(538)	N	N/A	73=Execution Venue	73=Execution Venue
> AnnualTradingBusinessDays(2584)	N	250	N/A	N/A

FIX Tags		1	2	3
> MDStatisticID(2475)	N	T1g	T1c	T1d
> MDStatisticValue(2478)	Y	<Value>	<Value>	<Value>
> MDStatisticValueType(2479)	Y	1=Absolute	2=Percentage	2=Percentage
Comments		Up to 1 statistic	Up to 5 statistic	Up to 5 statistic

D.2 Continuation of Annex II

FIX Tags		4	5	6
Attributes - >	Req' D	Percentage of passive orders (1ei)	Percentage of aggressive orders (1eii)	Percentage of directed orders (1f)
SecurityType(167)	N			
ProductComplex(1227)	Y			
SecurityGroup(1151)	N			
InstrAttribType(871)	Y	39<td>=Admitted to trading on a trading venue	39<td>=Admitted to trading on a trading venue	39<td>=Admitted to trading on a trading venue
InstrAttribValue(872)	Y	Y/N	Y/N	Y/N
NoParties(453)	Y	1	1	1
> PartyID(448)	Y	<LEI or MIC>	<LEI or MIC>	<LEI or MIC>
> PartyIDSource(447)	Y	G=MIC N=LEI	G=MIC N=LEI	G=MIC N=LEI
> PartyRole(452)	Y	116=Reporting Entity	116=Reporting Entity	116=Reporting Entity
> NoPartySubIDs(802)	Y	1	1	1
>> PartySubID(523)	Y	<LEI>	<LEI>	<LEI>
>> PartySubIDType(803)	Y	84<td>=Legal Entity Identifier	84<td>=Legal Entity Identifier	84<td>=Legal Entity Identifier

FIX Tags		4	5	6
CustOrderCapacity(582)	Y	1=Member for their own trading account 5=Retail customer	1=Member for their own trading account 5=Retail customer	1=Member for their own trading account 5=Retail customer
NoMDStatistics(2474)	Y	5	5	5
> MDStatisticType(2456)	Y	5=Ratio	5=Ratio	5=Ratio
> MDStatisticScope(2457)	Y	5=Orders	5=Orders	5=Orders
> MDStatisticSubScope(2458)	N	5=Passive	<u>32</u> <tbd> =Aggressive	<u>33</u> <tbd> =Directed
> MDStatisticDesc(2455)	Y	"Proportion of passive orders executed on a venue as a percentage of total"	"Proportion of aggressive orders executed on a venue as a percentage of total"	"Proportion of directed orders executed on a venue as a percentage of total"
> MDStatisticIntervalType(2464)	Y	3=Fixed date range	3=Fixed date range	3=Fixed date range
> MDStatisticStartDate(2468)	Y	<1.1.YYYY>	<1.1.YYYY>	<1.1.YYYY>
> MDStatisticEndDate(2469)	Y	<31.12.YYYY>	<31.12.YYYY>	<31.12.YYYY>
> MDStatisticFrequencyPeriod(2460)	Y	1	1	1
> MDStatisticFrequencyUnit(2461)	Y	15=Years	15=Years	15=Years
> MDStatisticRatioType(2472)	Y	<u>12</u> <tbd> =Orders to total number of orders	<u>12</u> <tbd> =Orders to total number of orders	<u>12</u> <tbd> =Orders to total number of orders
> NoNestedPartyIDs(539)		1	1	1
>> NestedPartyID(524)	N	<Venue MIC>	<Venue MIC>	<Venue MIC>
>> NestedPartyIDSource(525)	N	G=MIC	G=MIC	G=MIC
>> NestedPartyRole(538)	N	73=Execution Venue	73=Execution Venue	73=Execution Venue
> AnnualTradingBusinessDays(2584)	N	N/A	N/A	N/A

FIX Tags		4	5	6
> MDStatisticID(2475)	N	T1ei	T1eii	T1f
> MDStatisticValue(2478)	Y	<Value>	<Value>	<Value>
> MDStatisticValueType(2479)	Y	2=Percentage	2=Percentage	2=Percentage
Comments		Up to 5 statistic	Up to 5 statistic	Up to 5 statistic

D.3 Annex 1 - Class of Financial Instrument

Financial Instrument Class	ProductComplex(1227)	SecurityGroup(1151)	SecurityType(167)
-			
<u>Equities - Shares and Depository Receipts</u>	<u>Equities - Shares and Depository receipts</u>	-	<u>CS=Common Stock</u> <u>DR=Depository Receipts</u>
<u>Tick size liquidity bands 5 and 6 (from 2000 trades per day)</u>		<u>Tick size liquidity bands 5 and 6 (from 2000 trades per day)</u>	
<u>Tick size liquidity bands 3 and 4 (from 80 to 1999 trades per day)</u>		<u>Tick size liquidity bands 3 and 4 (from 80 to 1999 trades per day)</u>	
<u>Tick size liquidity bands 1 and 2 (from 0 to 79 trades per day)</u>		<u>Tick size liquidity bands 1 and 2 (from 0 to 79 trades per day)</u>	
-			
<u>Debt Instruments</u>	<u>Debt</u>	-	-
<u>Bonds</u>		<u>Bonds</u>	
<u>Money markets instruments</u>		<u>Money market instruments</u>	
-			
<u>Interest rate derivatives</u>	<u>Interest Rate Derivatives</u>	-	-

<u>Financial Instrument Class</u>	<u>ProductComplex(1227)</u>	<u>SecurityGroup(1151)</u>	<u>SecurityType(167)</u>
<u>Futures and options admitted to trading on a trading venue</u>		<u>Futures and options admitted to trading on a trading venue</u>	
<u>Swaps, forwards, and other interest rate derivatives</u>		<u>Swaps, forwards, and other interest rate derivatives</u>	
-			
<u>Credit Derivatives</u>	<u>Credit Derivatives</u>	-	-
<u>Futures and options admitted to trading on a trading venue</u>		<u>Futures and options admitted to trading on a trading venue</u>	
<u>Other credit derivatives</u>		<u>Other credit derivatives</u>	
-			
<u>Currency Derivatives</u>	<u>Currency Derivatives</u>	-	-
<u>Futures and options admitted to trading on a trading venue</u>		<u>Futures and options admitted to trading on a trading venue</u>	
<u>Swaps, forwards, and other currency derivatives</u>		<u>Swaps, forwards, and other currency derivatives</u>	
-			
<u>Structured finance instruments</u>	<u>Structured finance instruments</u>	-	-
-			
<u>Equity Derivatives</u>	<u>Equity Derivatives</u>	-	-
<u>Options and Futures admitted to trading on a trading venue</u>		<u>Futures and options admitted to trading on a trading venue</u>	
<u>Swaps and other equity derivatives</u>		<u>Swaps and other equity derivatives</u>	

<u>Financial Instrument Class</u>	<u>ProductComplex(1227)</u>	<u>SecurityGroup(1151)</u>	<u>SecurityType(167)</u>
-			
<u>Securitized Derivatives</u>	<u>Securitized Derivatives</u>	-	-
<u>Warrants and Certificates Derivatives</u>		<u>Warrants and Certificates Derivatives</u>	
<u>Other securitized derivatives</u>		<u>Other securitized derivatives</u>	
-			
<u>Commodities Derivatives and emission allowances Derivatives</u>	<u>Commodities Derivatives and emission allowances Derivatives</u>	-	-
<u>Options and Futures admitted to trading on a trading venue</u>		<u>Futures and options admitted to trading on a trading venue</u>	
<u>Other commodities derivatives and emission allowances derivatives</u>		<u>Other commodities derivatives and emission allowances derivatives</u>	
-			
-			
<u>Contracts for difference</u>	<u>Contracts for difference</u>	-	<u>CFD=Contract for Difference</u>
-			
<u>Exchange traded products (exchange traded funds, exchange traded notes and exchange traded commodities)</u>	<u>Exchange traded products (exchange traded funds, exchange traded notes and exchange traded commodities)</u>	-	-
-			
<u>Emission allowances</u>	<u>Emission allowances</u>	-	-
-			

Financial Instrument Class	ProductComplex(1227)	SecurityGroup(1151)	SecurityType(167)
Other instruments	Other instruments	-	-

FinancialInstrument-Class	ProductComplex(1227)	SecurityGroup(1151)	SecurityType(167)
-			
Equities	Equities	-	-
Shares			CS=Common Stock DR<td>=Depository Receipts
Depository Receipts			
-			
Debt Instruments	Debt	-	-
Bonds		Bonds	various values
Money markets instruments		Money market	various values
-			
Interest rate derivatives	Interest Rate Derivatives	-	-
Futures		Exchange traded	FUT=Future
Options		Exchange traded	OPT=Option
Swaps		OTC	IRS=Interest Rate Swap
Forwards		OTC	FORWARD=Forward
Other interest rate derivatives		OTC	
-			
Credit Derivatives	Credit Derivatives	-	-
Future		Exchange traded	FUT=Future
Options		Exchange traded	OPT=Option
Other Credit derivatives		OTC	
-			
Currency Derivatives	Currency Derivatives	-	-
Futures		Exchange traded	FUT=Future
Options		Exchange traded	OPT=Option
Swaps		OTC	FXSWAP=FX Swap

Forwards		OTC	FXFWD=FX Forward
Other currency derivatives		OTC	
-			
Structured finance instruments	Structured finance	-	-
-			
Equity Derivatives	Equity Derivatives	-	-
Futures		Exchange traded	FUT=Future
Options		Exchange traded	OPT=Option
Swaps		OTC	
Other equity derivatives		OTC	
-			
Securitized Derivatives	Securitized Derivatives	-	-
Warrants			WAR=Warrant
Certificates Derivatives			CD=Certificate of Deposit
Other		OTC	
-			
Commodities Derivatives	Commodities Derivatives	-	-
Options		Exchange traded	FUT=Future
Futures		Exchange traded	OPT=Option
Other		OTC	
-			
-			
CFDs	Contracts for Differences	-	CFD=Contract for Difference
-			
Exchange traded products	Exchange traded products	-	-
funds		Funds	
Notes		Notes	
Commodities		Commodities	
-			
Emission Allowances	Emission Allowances	-	-
-			

Other

Other

-

-

Appendix E - Disposition of Public Comments

The following sections captures each individual public comment posted to the FIX website (<http://forum.fixtrading.org/t/public-comment-period-mifid-rts-28-gap-analysis/191>) along with disposition and resolution to the comments.

PC-1 - Issue with Class of Financial Instrument mappings

MIFID II RTS28 FIXMappings.xlsx - 1st tab. Our agreement was to use just the ProductComplex(1227) and SecurityGroup(1151) fields with ESMA's exact phrase for each sub-group. But there are blanks under SecurityGroup(1151) in the Equities group. And there are values like "OTC" and "Exchange traded" in the IR SecurityGroup(1151) column, etc. Please revise and quote the ESMA phrase exactly in every case without resorting to any particular value in SecurityType(167) to identify the sub-group.

GTC disposition / Resolution, Sept. 21, 2017 call:

An update to table D.3 in Appendix D and accompanying spreadsheets is to be made to reflect the changes to the mapping based on the comment received.