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SBE TEMPLATE 107 – NEW FEATURES

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1. SUMMARY

Please find below the list of exhaustive changes introduced by the implementation of the SBE Template 107 (versus SBE template version 105) on OEG and MDG messages, fields and values as well as the standing data files. For an explanation of the changes, please refer to the Optiq OEG Client Specifications – SBE Interface or Optiq MDG Client Specifications.

Rationale

This version of SBE was introduced mainly to cover two new projects and to provide an enhancement on one existing project:

- **ETF Access Phase 1:** All European ETF Listings, Lit, LiS firm order capabilities, Multilateral RFQ
- **Large-in-scale features on the central order book**
- **Euronext Dublin migration:** ISE ETFs migration : EMM value addition of listed not traded instruments (SBE template minimal version for Dublin migration is 105)

Impacted segments originally: ETF, Equities.

Details of the changes

- No impact on existing messages and kinematics on ETF segment as well as any other segment thanks to the backward and forward compatibility.
- **New features (new values & messages)** will be available on the ETF segment for the customers who want to use the new ETF Access service.
- For Euronext Dublin : a new market place will be available for listed but not traded instruments.

	OEG template	MDG template:	Standing Data file:
Impact	yes	yes	yes
Root block	yes	yes	N/A
Repeating sections	yes	yes	N/A

2. IMPACT ON OEG SBE TEMPLATE

OEG SBE Template 105	OEG SBE Template 107	Change Purpose
<pre><sbe:messageSchema xmlns:sbe="http://fixprotocol.io/2016/sbe" xmlns:enx="http://www.euronext.com/dd" xmlns:str="http://exslt.or g/strings" xmlns:ext="http://exslt.org/common" package="com.euronext.optiq.dd" id="0" version="105" semanticVersion="1.4.0" des cription="OEG Binary" byteOrder="littleEndian"></pre>	<pre><sbe:messageSchema xmlns:sbe="http://fixprotocol.io/2016/sbe" xmlns:enx="http://www.euronext.com/dd" xmlns:str="http://exslt.or g/strings" xmlns:ext="http://exslt.org/common" package="com.euronext.optiq.dd" id="0" version="107" semanticVersion="1.5.0" des cription="OEG Binary" byteOrder="littleEndian"></pre>	New version template SBE 107
<pre><validValue name="Retail_Liquidity_Provider">3</validValue></pre>	<pre><validValue name="Retail_Liquidity_Provider">3</validValue> <validValue name="RFQ_Liquidity_Provider" sinceVersion="107">12</validValue></pre>	New field RFQ_Liquidity_Provider for ETF Access project
<pre><enum name="LogonRejectCode_enum" encodingType="uint8"></pre>	<pre><enum name="OrderCategory_enum" encodingType="uint8"> <validValue name="Lit_Order">1</validValue> <validValue name="LIS_Order">2</validValue> <validValue name="Quote_Request">3</validValue> <validValue name="RFQ_LP_Answer">4</validValue> <enum name="LogonRejectCode_enum" encodingType="uint8"></pre>	New field Order Category and values for LiS project
<pre><validValue name="ETF_MTF_NAV_Central_Order_Book">8</validValue></pre>	<pre><validValue name="ETF_MTF_NAV_Central_Order_Book">8</validValue></pre>	New EMM field Listed_not_traded for ISE project

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<p><validValue name="Not_Applicable">99</validValue></p>	<p><validValue name="Listed_not_traded" sinceVersion="107">9</validValue></p> <p><validValue name="Not_Applicable">99</validValue></p>	
<p><enum name="RecipientType_enum" encodingType="uint8"> <validValue name="RFQ_partially_or_fully_matched_with_other_counterparts">13</validValue></p>	<p><enum name="RecipientType_enum" encodingType="uint8" deprecated="106"> <validValue name="RFQ_partially_or_fully_matched_with_other_counterparts" deprecated="106">13</validValue></p>	<p>Deprecated enum RecipientType for ETF Access project</p> <p>Deprecated Value for ETF Access project</p> <p>RFQ_partially_or_fully_matched_with_other_counterpart</p>
<p>name="RFQ_Not_matched_due_to_issuer_orders_features">15</validValue></p> <p><validValue name="ETF_MTF_NAV_Trade_price_in_bp">37</validValue></p> <p><validValue name="ETF_MTF_NAV_Dark_Trade_price_in_bp">38</validValue></p>	<p><validValue name="RFQ_Not_matched_due_to_issuer_orders_features" deprecated="106">15</validValue></p> <p><validValue name="ETF_MTF_NAV_Trade_price_in_bp" deprecated="107">37</validValue></p> <p><validValue name="ETF_MTF_NAV_Dark_Trade_price_in_bp" deprecated="107">38</validValue></p>	<p>RFQ_Not_matched_due_to_issuer_orders_features</p> <p>ETF_MTF_NAV_Trade_price_in_bp</p> <p>ETF_MTF_NAV_Dark_Trade_price_in_bp</p>
<p><validValue name="Order_cancelled_due_to_a_Kill_command">17</validValue></p>	<p><validValue name="Order_cancelled_due_to_a_Kill_command">17</validValue></p> <p><validValue name="LP_Order_cancelled_due_to_RFQ_expiration" sinceVersion="107">19</validValue></p> <p><validValue name="LP_Order_cancelled_due_to_RFQ_cancellation" sinceVersion="107">20</validValue></p> <p><validValue name="RFQ_Remaining_quantity_killed" sinceVersion="107">21</validValue></p> <p><validValue name="LP_Order_cancelled_due_to_RFQ_confirmation" sinceVersion="107">22</validValue></p>	<p>New values for ETF Access project</p> <p>LP_Order_cancelled_due_to_RFQ_expiration</p> <p>LP_Order_cancelled_due_to_RFQ_cancellation</p> <p>RFQ_Remaining_quantity_killed</p> <p>LP_Order_cancelled_due_to_RFQ_confirmation</p>

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<pre><validValue name="Guaranteed_Cross_Negotiated_deal_OILQ">40</ validValue></pre>	<pre><validValue name="Guaranteed_Cross_Negotiated_deal_OILQ">40</ validValue></pre>	<p>New values for TRF project(derivative market)</p>
<pre><validValue name="Large_in_Scale_Trade">41</validValue></pre>	<pre><validValue name="Large_in_Scale_Trade_in_basis_points" sinceVersion="107">42</validValue> <validValue name="Large_in_Scale_Package_Trade_in_basis_points" sinceVersion="107">43</validValue> <validValue name="Strategy_Leg_Large_in_Scale_Trade_in_basis_poi nts" sinceVersion="107">44</validValue> <validValue name="Large_in_Scale_Trade">41</validValue></pre>	<p>New fields for LiS project</p>
<pre><choice name="DarkIndicator">0</choice> <choice name="DeferredTradeIndicator">1</choice> <choice name="DisplayedOrderInteraction">2</choice> <choice name="SweepOrderIndicator">3</choice></pre>	<pre><choice name="DarkIndicator">0</choice> <choice name="DeferredTradeIndicator" depreciated="107">1</choice> <choice name="DisplayedOrderInteraction" depreciated="107">2</choice> <choice name="SweepOrderIndicator">3</choice></pre>	<p>Deprecated values on DarkExecutionInstruction for LiS project</p> <p>DeferredTradeIndicator</p> <p>DisplayedOrderInteraction</p>
<pre><choice name="NAVTradeExpressedInPriceCurrency">6</choice></pre>	<pre><choice name="NAVTradeExpressedInPriceCurrency">6</choice> <choice name="DeferredPublication" sinceVersion="107">7</choice></pre>	<p>New value on TradeQualifier for Dark project</p> <p>DeferredPublication</p>
	<pre><group dimensionType="groupSizeEncoding" id="24" name="NotUsedGroup1" sinceVersion="106"> </group> <group dimensionType="groupSizeEncoding" id="25" name="NotUsedGroup2" sinceVersion="106"></pre>	<p>New repeating group on new order & cancel replace messages used for internal projects</p>

<p><group dimensionType="groupSizeEncoding" id="16" name="CollarFields"></p>	<p><group dimensionType="groupSizeEncoding" id="25" name="NotUsedGroup1" sinceVersion="106"></p> <p style="text-align: center;"></group></p> <p><group dimensionType="groupSizeEncoding" id="26" name="NotUsedGroup2" sinceVersion="106"></p> <p><group dimensionType="groupSizeEncoding" id="17" name="CollarFields"></p>	<p style="text-align: center;">Change incorrect repeating group ID on Reject message</p>
<p><field id="12" name="endClient" presence="optional" type="char11"/></p>	<p><field id="12" name="endClient" presence="optional" type="char11"/></p> <p><field id="13" name="darkExecutionInstruction" type="DarkExecutionInstruction_set" sinceVersion="107"/></p> <p><field id="14" name="minOrderQty" presence="optional" type="uint64_t" sinceVersion="107"/></p>	<p>New fields on Quote request Message</p> <p style="text-align: center;">darkExecutionInstruction</p> <p style="text-align: center;">minOrderQty</p>
<p><field id="12" name="orderType" type="OrderType_enum"/></p>	<p><field id="12" name="orderType" type="OrderType_enum"/></p> <p><field id="13" name="orderCategory" presence="optional" type="OrderCategory_enum" sinceVersion="107"/></p> <p><group dimensionType="groupSizeEncoding" id="14" name="NotUsedGroup1" sinceVersion="106"></p> <p style="text-align: center;"></group></p> <p><group dimensionType="groupSizeEncoding" id="15" name="NotUsedGroup2" sinceVersion="106"></p>	<p>New field Order Category for LiS project and new repeating group used for internal projects on Cancel request messages</p>
<p><field id="16" name="optionType" presence="optional" type="OptionType_enum"/></p>	<p><field id="16" name="optionType" presence="optional" type="OptionType_enum"/></p>	<p>New field Order Category for LiS project and new repeating group used for internal projects</p>

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	<pre> <field id="17" name="orderCategory" presence="optional" type="OrderCategory_enum" sinceVersion="107"/> <group dimensionType="groupSizeEncoding" id="18" name="NotUsedGroup1" sinceVersion="106"> </group> <group dimensionType="groupSizeEncoding" id="19" name="NotUsedGroup2" sinceVersion="106"> </group> </pre>	<p>on MassCancel messages</p>
<pre> <field id="21" name="optionType" presence="optional" type="OptionType_enum"/> </pre>	<pre> <field id="21" name="optionType" presence="optional" type="OptionType_enum"/> <field id="22" name="orderCategory" presence="optional" type="OrderCategory_enum" sinceVersion="107"/> </pre>	<p>New field Order Category for LiS project on MassCancelAck messages</p>
<pre> <field id="10" name="eMM" type="EMM_enum"/> </pre>	<pre> <field id="10" name="eMM" type="EMM_enum"/> <field id="11" name="orderCategory" presence="optional" type="OrderCategory_enum" sinceVersion="107"/> </pre>	<p>New field Order Category for LiS project on OpenOrderRequest messages</p>
<pre> <field id="8" name="totalAffectedOrders" type="int32_t"/> </pre>	<pre> <field id="8" name="totalAffectedOrders" type="int32_t"/> <field id="9" name="orderCategory" presence="optional" type="OrderCategory_enum" sinceVersion="107"/> </pre>	<p>New field Order Category for LiS project on OwnershipRequestAck messages</p>
<pre> <field id="12" name="oEPartitionID" presence="optional" type="uint16_t"/> </pre>	<pre> <field id="12" name="oEPartitionID" presence="optional" type="uint16_t"/> <field id="13" name="orderCategory" presence="optional" type="OrderCategory_enum" sinceVersion="107"/> </pre>	<p>New field Order Category for LiS project on OwnershipRequest messages</p>

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<pre><field id="11" name="eMM" type="EMM_enum"/> <field id="12" name="rFQUpdateType" type="RFQUpdateType_enum"/></pre>	<pre><field id="11" name="eMM" type="EMM_enum"/> <field id="12" name="rFQUpdateType" type="RFQUpdateType_enum" deprecated="107"/></pre>	<p>Deprecate field RFQUpdateType for ETF Access project</p>
<pre><field id="14" name="endClient" presence="optional" type="char11"/></pre>	<pre><field id="14" name="endClient" presence="optional" type="char11"/> <field id="15" name="darkExecutionInstruction" type="DarkExecutionInstruction_set" sinceVersion="107"/> <field id="16" name="minOrderQty" presence="optional" type="uint64_t" sinceVersion="107"/></pre>	<p>New fields on RFQNotification Message</p> <p>darkExecutionInstruction</p> <p>minOrderQty</p>
<pre><field id="14" name="recipientType" type="RecipientType_enum"/></pre>	<pre><field id="14" name="recipientType" type="RecipientType_enum" deprecated="106"/></pre>	<p>Deprecate field RecipientType for ETF Access project on RFQMatchingStatus message</p>
	<pre><sbe:message name="RFQLPMatchingStatus" id="37"> <!--Expanding sub message--> <field id="1" name="msgSeqNum" type="uint32_t"/> <field id="2" name="firmID" type="char8"/> <field id="3" name="bookIn" type="uint64_t"/> <field id="4" name="bookOUTTime" presence="optional" type="uint64_t"/> <field id="5" name="oEGINFromME" presence="optional" type="uint64_t"/> <field id="6" name="oEGOUTToMember" presence="optional" type="uint64_t"/> <field id="7" name="quoteReqID" type="uint64_t"/> <field id="8" name="potentialMatchingQty" type="uint64_t"/> <field id="9" name="symbolIndex" type="uint32_t"/></pre>	<p>New message RFQLPMatchingStatus for ETF Access project</p>

```
<field id="10" name="eMM" type="EMM_enum"/>  
<field id="11" name="orderSide"  
  type="OrderSide_enum"/>  
</sbe:message>
```

3. IMPACT ON MDG SBE TEMPLATE AND REAL TIME MESSAGES

MDG SBE Template 105	MDG SBE Template 107	Change Purpose
<pre><sbe:messageSchema xmlns:sbe="http://fixprotocol.io/2016/sbe" xmlns:enx="http://www.euronext.com/dd" xmlns:str="http://exslt.or g/strings" xmlns:ext="http://exslt.org/common" package="com.euronext.optiq.dd" id="0" version="105" semanticVersion="2.1.5" des cription="MDG Binary" byteOrder="littleEndian"></pre>	<pre><sbe:messageSchema xmlns:sbe="http://fixprotocol.io/2016/sbe" xmlns:enx="http://www.euronext.com/dd" xmlns:str="http://exslt.or g/strings" xmlns:ext="http://exslt.org/common" package="com.euronext.optiq.dd" id="0" version="107" semanticVersion="2.3.0" des cription="MDG Binary" byteOrder="littleEndian"></pre>	New version template SBE 107
<pre><type name="char32" length="32" primitiveType="char"/> <type name="char40" length="40" primitiveType="char"/> <type name="char52" length="52" primitiveType="char"/></pre>	<pre><type name="char32" length="32" primitiveType="char"/> <type name="char52" length="52" primitiveType="char"/></pre>	Removed Character type char40 (not used)
<pre><validValue name="ModificationOfExistingOrderWithLossOfPriority"> 6</validValue></pre>	<pre><validValue name="ModificationOfExistingOrderWithLossOfPriority"> 6</validValue> <validValue name="RFQ_Answer_creation" sinceVersion="107">7</validValue> <validValue name="RFQ_Answer_deletion_" sinceVersion="107">8</validValue></pre>	New values on MarketDataActionType for ETF Access project RFQ_Answer_creation RFQ_Answer_deletion
<pre><validValue name="Clear_Wholesale_RFC">78</validValue> <validValue name="Guaranteed_Cross_Negotiated_deal_NLIQ" sinceVersion="101">79</validValue></pre>	<pre><validValue name="Clear_Wholesale_RFC">78</validValue> <validValue name="Guaranteed_Cross_Negotiated_deal_NLIQ">79</ validValue></pre>	Modification sinceVersion on LiS fields

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<pre><validValue name="Guaranteed_Cross_Negotiated_deal_OILQ" sinceVersion="101">80</validValue> <validValue name="Large_in_Scale_Trade" sinceVersion="101">81</validValue> <validValue name="Large_in_Scale_Trade_in_basis_points" sinceVersion="105">82</validValue> <validValue name="Large_in_Scale_Package_Trade_in_basis_points" sinceVersion="105">83</validValue> <validValue name="Strategy_Leg_Large_in_Scale_Trade_in_basis_poi nts" sinceVersion="105">84</validValue></pre>	<pre><validValue name="Guaranteed_Cross_Negotiated_deal_OILQ">80</ validValue> <validValue name="Large_in_Scale_Trade">81</validValue> <validValue name="Large_in_Scale_Trade_in_basis_points" sinceVersion="107">82</validValue> <validValue name="Large_in_Scale_Package_Trade_in_basis_points" sinceVersion="107">83</validValue> <validValue name="Strategy_Leg_Large_in_Scale_Trade_in_basis_poi nts" sinceVersion="107">84</validValue></pre>	
<pre><validValue name="Clear_Book">254</validValue></pre>	<pre><validValue name="New_Bid_RFQ_Answer" sinceVersion="107">86</validValue> <validValue name="New_Offer_RFQ_Answer" sinceVersion="107">87</validValue> <validValue name="Updated_Bid_RFQ_Answer" sinceVersion="107">88</validValue> <validValue name="Updated_Offer_RFQ_Answer" sinceVersion="107">89</validValue> <validValue name="Clear_Book">254</validValue></pre>	<p>New values on MarketDataUpdateType for ETF Access project</p> <p>New_Bid_RFQ_Answer</p> <p>New_Offer_RFQ_Answer</p> <p>Updated_Bid_RFQ_Answer</p> <p>Updated_Offer_RFQ_Answer</p>
<pre><validValue name="Total_Traded_Volume">36</validValue> <validValue name="ETF_MTF_NAV_Trade_price_in_bp">37</validVal ue></pre>	<pre><validValue name="Total_Traded_Volume">36</validValue> <validValue name="ETF_MTF_NAV_Trade_price_in_bp" deprecated="107">37</validValue></pre>	<p>ETF Access : deprecated fields - unused</p>

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<pre><validValue name="ETF_MTF_NAV_Dark_Trade_price_in_bp">38</validValue> <validValue name="Guaranteed_Cross_Negotiated_deal_NLIQ" sinceVersion="101">39</validValue></pre>	<pre><validValue name="ETF_MTF_NAV_Dark_Trade_price_in_bp" deprecated="107">38</validValue> <validValue name="Guaranteed_Cross_Negotiated_deal_NLIQ" sinceVersion="101">39</validValue></pre>	
<pre><validValue name="ETF_MTF_NAV_Central_Order_Book">8</validValue> <validValue name="Not_Applicable">99</validValue></pre>	<pre><validValue name="ETF_MTF_NAV_Central_Order_Book">8</validValue> <validValue name="Listed_not_traded" sinceVersion="107">9</validValue> <validValue name="Not_Applicable">99</validValue></pre>	<p>New EMM field Listed_not_traded for ISE project</p>
<pre><choice name="NAVTradeExpressedInPriceCurrency">6</choice></pre>	<pre><choice name="NAVTradeExpressedInPriceCurrency">6</choice> <choice name="DeferredPublication" sinceVersion="107">7</choice></pre>	<p>New value on TradeQualifier for LiS project</p> <p>DeferredPublication</p>
<pre><field id="49" name="marketOfReferenceMIC" presence="optional" type="char4" deprecated="101"/></pre>	<pre><field id="49" name="marketOfReferenceMIC" presence="optional" type="char4" deprecated="101"/> <group dimensionType="groupSizeEncoding" id="50" name="NotUsedGroup1" sinceVersion="106"> </group></pre>	<p>New repeating group on FullTradeInformation messages used for onternal projects</p>
<pre><field id="58" name="iCBCCode" presence="optional" type="char8" sinceVersion="104"/> <group dimensionType="groupSizeEncoding" id="59" name="EMMPatternRep"> <field id="1" name="eMM" type="EMM_enum"/></pre>	<pre><field id="58" name="iCBCCode" presence="optional" type="char8" sinceVersion="104"/> <field id="59" name="thresholdLISPostTrade60mn" presence="optional" type="uint64_t" sinceVersion="107"/> <field id="60" name="thresholdLISPostTrade120mn" presence="optional" type="uint64_t" sinceVersion="107"/> <field id="61" name="thresholdLISPostTradeEOD" presence="optional" type="uint64_t" sinceVersion="107"/> <group dimensionType="groupSizeEncoding" id="62" name="EMMPatternRep"> <field id="1" name="eMM" type="EMM_enum"/></pre>	<p>New field on Standing data message for LiS project</p> <p>thresholdLISPostTrade60mn</p> <p>thresholdLISPostTrade120mn</p> <p>thresholdLISPostTradeEOD</p> <p>repeating group ID have changed from 59 to 62</p>

4. IMPACT ON MDG STANDING DATA FILES

33 new fields in **CashStandingDataFile (9007)**

- 6 fields added to the message block :
 - ThresholdLISPostTrade60mn
 - ThresholdLISPostTrade120mn
 - ThresholdLISPostTradeEOD
 - AssetClass
 - InstrumentCategory
 - InstrumentType
- New XML section ETFDataFromMarketOfReference added at the end of the file with the following 27 fields:
 - SixMonthsADVExchangeOfRef
 - AUM
 - BICMainDepository
 - CutOffTime
 - DateNextTradableNAV
 - PublicationDateNextTradableNAV
 - DividendFrequency
 - MICExchangeOfReference
 - NameExchangeOfReference
 - ExpositionType
 - ICSD
 - IndexLeverage
 - IssuerName
 - LEICode
 - ListingDate
 - NAVCurrency
 - PreviousNAV
 - ReutersRICCode

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- TotalExpenseRatio
- BloombergTickerCode
- NAVPublicationTime
- UMTF
- UnderlyingName
- UnderlyingReturnTypes
- UnderlyingSegmentation
- BpsLowCollar
- BpsHighCollar

Several values added or modified on this fields below:

- Value 9 = Listed-not traded added to the EMM field
- Value 32 – ETF Access added to the MDG Set Of Channels ID field
- Value 5 – Luxembourg Stock Exchange of the OptiqSegment field renamed to Bourse de Luxembourg
- Value 'MOC' – Market On Close added to the PricingAlgorithm field
- TradeQualifier field:
“ETF MTF” renamed to “ETF Access” in the field description
Bit 7 – Deferred Publication (Cash Only) added
- TradeType field – “For future use” removed from the following values:
33 = Dark Trade (Cash Only)