BISTECH DATA DISSEMINATION SYSTEM

Market Data Flow, Important Issues and Content of Data Packages

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Revision History

Version	Date	Summary of Revisions
1.0	**20.11.2015**	**First version**
1.1	**01.06.2016**	**Second version**

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1. BISTECH EQUITY MARKET DATA FLOW

During the standard operations of BISTECH, following market data flow is expected. Nevertheless, there can be differences in the flow depending on the market model of the instrument.

In addition to the flow under mentioned, in case of the single session state changes of instruments, there can be changes in the flow of the related instrument, and different messages can be disseminated.

It is expected that data vendors do not process TIP messages/fields which are not in compliance with BISTECH TIP format. In case of receiving such an information, data vendors should continue to process afterwards incoming information that is consistent with the format.

Start of the Day (06:00)

BISTECH Data Dissemination System starts to disseminate the business date and basic data (not changing throughout the day) for each instrument that would be traded on the same day. Basic data contains descriptive information related to instruments, ISIN, type of security, previous day's summary, and if available, linked sector/list/index information.

Dynamic usage of "Id-Symbol" match in BDt, BDm (and etc) messages by data vendors would prevent possible problems in case of "Id-Symbol" changes. It is recommended to use dynamic "Id-Symbol" matching, instead of static "Id-Symbol" matching.

Each data vendor should keep the sequence number of each message coming out from the system in their own structure. In later access requests, if it is requested to continue from the last situation just before the disconnection, this sequence number will be used as reconnecting.

Here are the message types disseminated within this scope:

Messages	*Field (Tag)*	*Description*
BasicDataExchange BasicDataMarket BasicDataBusinessDate BasicDataIssuer BasicDataClearingVenue BasicDataParticipant BasicDataNonTradingDays		Exchange Market Business date Issuer Clearing venue Participant Non trading dates are defined in these messages.
BasicDataTradable	BDt	This message covers the basic data of all instruments that will be traded on that day.
BasicDataList BasicDataSector BasicDataIndex		Basic data related to defined lists (at market segment) would be disseminated. Basic data related to defined sectors would be disseminated. Basic data related to defined indices would be disseminated.
BasicDataTradableSupplementary*	BDTr	This message covers the ISIN of instruments that will be traded on that day.

BasicDataShare/Derivative/Fund/Right	BDSh BDDe BDEt BDRi	This message covers the detailed data of instruments based on the instrument type.
OrderbookSummary	m	This message covers the summary data of an instrument based on the previous day's trades.
BasicDataListMember	BDLm	In case an instrument is defined under a list (such as YILDIZ PAZAR, ANA PAZAR), the related list for an instrument is disseminated. The definitions of lists are stated in BasicDataList messages.
BasicDataSectorMember	BDSm	In case an instrument is defined under a sector (such as Infomatics, Telecommunication, Defense, Transportation), the related sector for an instrument is disseminated. The definitions of sectors are stated in BasicDataSector messages.
BasicDataIndexMember	BDIm	In case an instrument is included in an index (such as XU100, XU030), instrument-sector linkage is disseminated.
Indexweight	Iw	In case an instrument is included in an index (such as XU100, XU030), related detailed information such as instrument's weight in an index, market cap, free float ratio is disseminated.
Statechange	s	26-NonTradable Period
OrderbookReferencePrice	r	Base price valid for that session is disseminated.
Orderbook1	o	Flush (clearance of order information)
Orderbook2	p	Flush (clearance of order information)
Orderbook3	z	Flush (clearance of order information)
Tradestatistics1	u	Flush (clearance of statistics)
Tradestatistics2	v	Flush (clearance of statistics)
Tradestatistics3	w	Flush (clearance of statistics)
Statechange	s	27-Dissemination of Price Limits
OrderbookReferencePrice	r	Upper lower price limits information valid for the following session is disseminated.
Statechange	s	6-Break

Opening Session

At the opening session, related state message is sent and the orders are started to be collected. Equilibrium price and equilibrium volume based on collected orders are disseminated. Depending on the authorized data package, remaining quantity at equilibrium bid/ask price level is also disseminated.

Following messages are sent during this session:

Messages	***Field (Tag)***	***Description***
Statechange	*s*	4-Opening Session
CallInformation1	*c*	Equilibrium price and equilibrium volume based on collected orders are disseminated.
CallInformation2	*Cl*	Remaining quantity at equilibrium bid/ask price level is disseminated.
Orderbook1	*o*	As moving from opening session to uncrossing, the latest situation of order book at that moment is disseminated.
Orderbook2	*p*	As moving from opening session to uncrossing, the latest situation of order book at that moment is disseminated.

Orderbook3	*z*	As moving from opening session to uncrossing, the latest situation of order book is disseminated.
MBPOrderSnapshot	*k*	As moving from opening session to uncrossing, best 10 levels at bid & ask (the level may change) at order book at that moment are disseminated.

Uncrossing

As moving from opening session to uncrossing, the trades executed at equilibrium price and statistics related to these trades are disseminated. The state changes to continuous trading following the dissemination of the latest situation of order book.

Following messages are sent during this session:

Messages	***Field (Tag)***	***Description***
Statechange	*s*	3-Uncrossing
Trade	*t*	The trades executed at equilibrium price during the opening session are disseminated.
Tradestatistics1	*u*	Statistics related to the executed trades are disseminated.
Tradestatistics2	*v*	Statistics related to the executed trades are disseminated.
Tradestatistics3	*w*	Statistics related to the executed trades are disseminated.
CallInformation1	*c*	Equilibrium price and equilibrium volume based on the collected orders are reset.
CallInformation2	*Cl*	Equilibrium price and equilibrium volume based on the collected orders together with the remaining quantity at equilibrium price level are reset.
Orderbook1	*o*	The latest situation of order book at that moment is disseminated.
Orderbook2	*p*	The latest situation of order book at that moment is disseminated.
Orderbook3	*z*	The latest situation of order book at that moment is disseminated.
MBPOrderSnapshot	*k*	Best 10 levels at bid & ask (the level may change) at order book are disseminated.

Continous Trading

As session moves to continuous trading, order book changes, executed trades and statistics related to these trades are disseminated. During the sessions, market data such as weighted average prices, last price and price depth at equity level is sent. For session changes, "StateChange" message is used. In case of an executed trade, TWAP is calculated in every 10 minutes during the day.

Following messages are sent during this session:

Messages	***Field (Tag)***	***Description***
StateChange	*s*	2-Continuous
Orderbook1	*o*	Based on the orders sent to the trading system, changes in the best bid/ask price levels are disseminated.
Orderbook2	*p*	Based on the orders sent to the trading system, changes in the best bid/ask price levels and quantities are disseminated.
Orderbook3	*z*	Based on the orders sent to the trading system, changes in the order book (price and quantities) are disseminated.
MarketMakerQuote1	*q*	The price information of the quotation orders entered by the market maker(s) are disseminated.
MarketMakerQuote2	*y*	The price and volume information of the quotation orders entered by the market maker(s) are disseminated.
Trade	*t*	Information related to executed trades are disseminated.
Tradestatistics1	*u*	Statistics related to executed trades are disseminated.
Tradestatistics2	*v*	Statistics related to executed trades are disseminated.
Tradestatistics3	*w*	Statistics related to executed trades are disseminated.
MBPOrderSnapshot	*k*	Best 10 levels at bid & ask (the level may change) at order book are disseminated.

Single Price Auction Session

After the completion of continuos trading and for equities that are traded with single price auction, the information related to the single price auction session is disseminated. Order books are cleared and collection of orders starts.

Following messages are sent during this session:

Messages	***Field (Tag)***	***Description***
Statechange	*s*	8-Single Price Auction
Orderbook1	*o*	Flush (clearance of order information)
Orderbook2	*p*	Flush (clearance of order information)
Orderbook3	*z*	Flush (clearance of order information)
CallInformation1	*c*	Equilibrium price and equilibrium volume based on the collected orders are reset.
CallInformation2	*Cl*	Equilibrium price and equilibrium volume based on the collected orders together with the remaining quantity at equilibrium price level are reset.
Orderbook1	*o*	As moving from single price auction to uncrossing, the latest situation of order book at that moment is disseminated.
Orderbook2	*p*	As moving from single price auction to uncrossing,the latest situation of order book at that moment is disseminated.
Orderbook3	*z*	As moving from single price auction to uncrossing, the latest situation of order book at that moment is disseminated.
MBPOrderSnapshot	*k*	As moving from single price auction to uncrossing, best 10 levels at bid & ask (the level may change) at order book at that moment are disseminated.

<table>
<tr><td>Uncrossing</td><td>The above mentioned procedure and flow for uncrossing are followed.</td></tr>
<tr><td>Continuous Trading</td><td>The above mentioned procedure and flow for continuous trading are followed.</td></tr>
<tr><td>Closing Auction</td><td>As closing auction starts, due to the market rule, new base price and upper/lower price limits (OrderbookReferencePrice) that are determined based on the trades at last traded price are disseminated. Together with the related state change message, the above mentioned procedure and flow for auction (order collection) are followed.</td></tr>
<tr><td>Uncrossing</td><td>The above mentioned procedure and flow for uncrossing are followed.</td></tr>
<tr><td>Trades at closing price</td><td>During the last 2 minutes, trades at the closing price are occurred.</td></tr>
<tr><td>End of Day</td><td>After the completion of trades at the closing price, end of day process starts and with StateChange message related state “closed” is sent.Considering the executed trades all day for a single security, end of day summary, base prices and price limits valid for next day, and if a security is included in an index, for every index the calculated values based on the end of day values are disseminated.
Following messages are sent during this session:
<table>
<tr><th>Messages</th><th>Field (Tag)</th><th>Description</th></tr>
<tr><td>Statechange</td><td>s</td><td>1-Closed</td></tr>
<tr><td>Orderbook1</td><td>o</td><td>Flush (clearance of order information)</td></tr>
<tr><td>Orderbook2</td><td>p</td><td>Flush (clearance of order information)</td></tr>
<tr><td>Orderbook3</td><td>z</td><td>Flush (clearance of order information)</td></tr>
<tr><td>OrderbookReferencePrice</td><td>r</td><td>Base price valid for that session is disseminated.</td></tr>
<tr><td>OrderbookReferencePrice</td><td>r</td><td>Upper and lower price limits for that session is disseminated.</td></tr>
<tr><td>Indexweight</td><td>Iw</td><td>In case an instrument is included in an index (such as XU100, XU030), related detailed information such as instrument’s weight in an index, market cap, free float ratio is disseminated.</td></tr>
<tr><td>OrderbookSummary</td><td>m</td><td>This message covers the summary data of an instrument based on the previous day’s trades.</td></tr>
</table></td></tr>
<tr><td>BISTECH Data Dissemination System is closed at 19:40 p.m.</td><td>This time may change due to operational reasonings.</td></tr>
</table>

In addition to the flow of messages, IndexUpdate (“i”) message is sent for all indices at pre-defined time intervals throughout the day. At the start and end of the day, for all indices IndexSummary (“Is”) messages including the summary information for all indices are disseminated.

In case a trade executed for a security that is covered under a list, TurnoverListUpdate (“l”) message would be sent intraday since the summation by lists would change.

If needed, for a single security (state level = orderbook) different states may be disseminated. OrderbookFlush field, existing in different messages, would reset only the fields in the related message and corresponding instrument.

2. ACCESS TO PREVIOUS DATED MARKET DATA LOGS

Via BISTECH Data Dissemination System, it is possible to access the previous dated market data messages up to 20 trading days. While logging in, the requested previous "session" information and date (in YYYYMMDD format) should be entered in order to access the related messages.

3. REDUNDANCY CONFIGURATION/ THINGS TO DO DURING FAILOVER

It is requested from data vendors to switch among reduntant data connections.

With the BIST warning, the sequence number can restart from 1 intraday (restart of the whole system). In this case, sometimes SoupBinTCP EndOfSession message may also be sent. That's why in some cases SoupBinTCP EndOfSession message does not mean it is the end of day. After that, BISTECH data dissemination system will be opened again with the same SoupBinTCP session beginning from sequence number 1. Therefore, the configuration of data vendors should be prepared to restart intraday sequence number from 1 following the warning via BIST.

In case of the intraday restart of BISTECH Data Dissemination System, all basic data would be re-disseminated similar to the first opening of the system. After all these messages, the trading session state of the system and state of instruments (TradeStatistics, Orderbook, etc.) at that moment are disseminated as a snapshot. On the other hand, there is logic for Trade ("t") and IndexUpdate ("i") messages. In case of intraday restart of data dissemination system, all trades (Trade ("t")) executed till the restart time and index values (IndexUpdate ("i")) of that day are re-disseminated.

4. IMPORTANT ISSUES AS PROCESSING "ORDERBOOK" MESSAGES

As making the developments on orderbook messages, it is important to consider following situation by data vendors:

An order with "0 (zero)" price is possible for Trade At Settlement (.TAS) instruments. Besides, for imbalance, market and market-to-limit orders sent at market price there is no price information. In case of these situations, all price related fields (such as WavgPriceAllBid, WavgPriceAllAsk) would be affected and it is required from vendors to set the price fields as null.

For example;

In the following Orderbook3 message, there are BidVolumeAtLevel and BidOrdersAtVolume fields available, but there is no BidPriceAtLevel field. When processing this message, price information on that level needs to be assgined as "null".

```
z;i1846;s1;t104827.476;Bw6.677;Bt6399702;Aw6.932;At8908062;g1:441838;h1:57;

****************************************************************
***************              GARAN.E             ******************
****************************************************************
*************** BID ************************** ASK **************
##    Orders      Volume      Price  |   Price      Volume   Orders
1        57      441838
```

Similarly, if there is no Aw or Bw fields (Weighted Average Price of all outstanding orders) in the message, but Bt and At (Total Amount of all outstanding orders) are sent as "0", wap fields need t be assigned as "null" as well.

```
z;i1846;s1;t104827.476; Bt0; At0;
```

5. IMPORTANT ISSUES AS PROCESSING "STATECHANGE" MESSAGES

In Equity Market, session flows may change at market and order book level. Within this scope, it would be beneficial to pay attention to following items.

5.1. General Rules

- Markets get state messages which include just "Sl1" field.
- Instruments can get state messages which include both "Sl1" & "Sl2" fields (One state message can just only have one "Sl" field).
- If an instrument gets a "Sl1" included state message then this instrument will be affected from its market's state changes after that message.
- If an instrument gets a "Sl2" included state message then this instrument will not be affected from its market state changes until it gets a state message with "Sl1" field (Market state changes does not affect this instrument if its state level equals to 2).
- State messages that includes Ms99 field means that vendors must clear all instrument status and state levels under that market and recreate new states and state levels with messages that comes after this message. When a market gets a state which does not include "Ms99" than this means market reset operation ended.

  Example:
  s;i288;s1;t081456.648;Ms99;Sl1; [MSPOT] <- State Reset
  s;i4110;s1;t081456.649;Ms3;Sl2; [ISIEM.E] <- Instrument that doesn't run on market level in that market
  s;i288;s1;t081456.650;Ms2;Sl1; [MSPOT] <- State reset ends.

5.2. Market/Orderbook Level Messages

Market level messages can be sent to markets or instruments. "Sl1" field in state messages refers that identification.

Example:
1- s;i288;s1;t081456.648;Ms2;Sl1; [MSPOT] <- Market level message for a market
2- s;i4110;s1;t081456.649;Ms3;Sl1; [ISIEM.E] <- Market level message for an instrument

If an instrument gets a market level state message, this means instrument must obey market states. (Vendors must set instruments' status under that market to new status. There will not be any other state message that will be sent for instruments under that market which runs on market level).

Example:
1- s;i288;s1;t081456.648;Ms2;Sl1; [MSPOT] <- Market level message for market
2- s;i1216;s1;t081456.653;Ms3;Sl2; [YESIL.E] <- Orderbook level message for an instrument
3- s;i1216;s1;t081456.655;Ms2;Sl1; [YESIL.E] <- Market level message for an instrument

In this example firstly YESIL.E runs on orderbook level with message #2. But with message #3 its state level changed from orderbook level to market level. After that point, state changes of market of that instrument affect that instrument. There will be no state message to be sent especially for this instrument. It is possible for an instrument not to get any state message until the end of session. This means, state changes of the market of that instrument affect that instrument.

An instrument can get a state change message with "Sl2" field at any time in a session. At that point state change messages for the market of that instrument do not affect that instrument.

Example:

1- s;i288;s1;t081456.648;Ms2;Sl1; [MSPOT] <- Market gets a market level state message
2- s;i1216;s1;t081456.653;Ms3;Sl2; [YESIL.E] <- Instrument gets an orderbook level state change message

In the example above, YESIL.E will not be affected by its market's state messages after message #2.

Example:

1- s;i288;s1;t081456.648;Ms2;Sl1; [MSPOT] <- Market level message for a market
2- s;i1216;s1;t081456.653;Ms3;Sl2; [YESIL.E] <- Orderbook level message for an instrument
3- s;i288;s1;t081456.648;Ms4;Sl1; [MSPOT] <- Market level message for a market

In the example above, message #3 changes market state to "4" but this will not affect YESIL.E and its state will stay at "3" because its state level set to orderbook level with message #2.

If YESIL.E gets a state change message with "Sl1" field, this means its state level changes to market level and market messages will affect it.

Example:

1- s;i288;s1;t081456.648;Ms2;Sl1; [MSPOT] <- MSPOT market gets a market level message
2- s;i1216;s1;t081456.653;Ms3;Sl2; [YESIL.E] <- YESIL.E state level set to orderbook level, so market messages will not affect it after that point.
3- s;i288;s1;t081456.660;Ms4;Sl1; [MSPOT] <- MSPOT market goes to state 4. But this will not affect YESIL.E
4- s;i1216;s1;t081456.675;Ms4;Sl1; [YESIL.E] <- YESIL.E gets market level message. No longer is orderbook level effective, market level messages are effective.
5- s;i288;s1;t081456.680;Ms2;Sl1; [MSPOT] <- MSPOT market gets market level message.

In this example; with message #2, YESIL.E leaves market level and follows the orderbook level and with message #4 again it returns following market level. Because of message #5 its state must be set to "2" by data vendors because market level is effective on that instrument.

Sending the status information at start of day:

s;i278;s1;t080741.875;Ms99;Sl1; [MSPOT] ← state reset sequence starts for MSPOT

s;i262;s1;t080741.875;Ms99;Sl1; [PRMKT]
s;i270;s1;t080741.875;Ms99;Sl1; [PMOSA]
s;i2014;s1;t080741.938;Ms2;Sl2; [YONGA.E]
s;i1230;s1;t080741.938;Ms3;Sl2; [YESIL.E]
s;i1272;s1;t080741.946;Ms2;Sl2; [YBTAS.E]
s;i724;s1;t080741.946;Ms5;Sl2; [UZERB.E]
s;i1670;s1;t080741.949;Ms2;Sl2; [TRNSK.E]
s;i1480;s1;t080741.953;Ms2;Sl2; [TCHOL.E]
s;i698;s1;t080741.953;Ms3;Sl2; [SODSN.E]
s;i278;s1;t080741.875;Ms2;Sl1; [MSPOT] ← state reset sequence ends for MSPOT
s;i262;s1;t080741.875;Ms2;Sl1; [PRMKT]
s;i270;s1;t080741.875;Ms2;Sl1; [PMOSA]

In the example above with state messages that are sent from data dissemination system, YONGA.E, YESIL.E, YBTAS.E, UZERB.E, TRNSK.E, TCHOL.E, SODSN.E state level change from market level to orderbook level and with this information these instruments will get state message individually (until a state message with a field "Sl1" for that instruments). The state of the other instruments under that market (MSPOT) must be set to same state as MSPOT state. And they will not get extra state messages for their state. Markets can get state 99 (Ms99) message at the start of the day or intraday. At such a situation, vendors must clear and then recreate the status of the markets and instruments from the beginning. For example if an instrument previously got a state message with "Sl2" field, after state message which includes Ms99 field it must return to follow the market level. If it gets a state message with "Sl2" field again in state reset sequence, then its state level must change to orderbook level.

Example state message flow with "Sl2" field:

s;i278;s1;t145038.682;Ms99;Sl1; [MSPOT] <- Market state reset sequence start.
s;i2012;s1;t145038.842;Ms4;Sl2; [AKSA.E] <- State of AKSA.E is changed to opening session (Left market message level).
s;i278;s1;t145512.867;Ms4;Sl1; [MSPOT] <- Market state reset ends. Market goes to opening session (AKSA.E has already in opening session).
s;i278;s1;t145737.259;Ms3;Sl1; [MSPOT] <- Market state changed to uncrossing (AKSA.E is still in opening session).
s;i278;s1;t145812.867;Ms2;Sl1; [MSPOT] <- Market state changed to continuous session (AKSA.E is still in opening session).
s;i2012;s1;t145846.259;Ms10;Sl2; [AKSA.E] <- AKSA.E suspended.
s;i278;s1;t145937.259;Ms5;Sl1; [MSPOT] <- Market state changed to closing session.
s;i2012;s1;t145938.842;Ms5;Sl1; [AKSA.E] <- AKSA.E's state changed to closing session and state level changed to market level. (Sl=1)
s;i278;s1;t150037.259;Ms3;Sl1; [MSPOT] <- Market state changed to uncrossing (AKSA.E's state must be changed from closing session to uncrossing by vendor. AKSA.E will not get any other message because its state level changed to market level with previous message, "s;i2012;s1;t145038.842;Ms5;Sl1; [AKSA.E] ").
s;i278;s1;t150137.259;Ms1;Sl1; [MSPOT] <- Market closed (AKSA.E is also closed with market. Vendors must close this instrument).

6. IMPORTANT ISSUES AS PROCESSING "MARKETMAKERQUOTE" MESSAGES

As making the developments for "MarketMakerQuote" message in BISTECH Data Dissemination, it is important to consider the following issue by data vendors:

In case there is a change in bid or ask quotation values, both bid and ask information is disseminated "MarketMakerQuote" message. On the other hand, whenever there is quotations at both bid and ask sides, and one side is deleted, the information related to the deleted side is not disseminated. For these messages, the bid/ask quotation information of the related instrument that is not stated in the message should be set as "null" by the data vendors.

Please examine the following example:

q;i1882;s1;t120515.928;Pb12.84; → Ask Quotation Price should be set as "null"
y;i1882;s1;t120515.928;Pb12.84;Vb1; → Ask Quotation Price & Volume should be set as "null"

Similarly, whenever there is quotation at both bid and ask sides, and both sides are deleted, no information for bid and ask sides is disseminated. For these messages, both bid and ask quotation information of the related instrument that is not stated in the message should be set as "null" by the data vendors.

Please examine the following example:

q;i6374;s1;t120407.092; → Bid & Ask Quotation Price should be set as "null"
y;i6374;s1;t120407.092; → Bid & Ask Quotation Price & Volume should be set as "null"

7. IMPORTANT EXPLANATIONS FOR OTHER MESSAGES

a) BasicDataShare > TotalIssue: This field would be blank in Phase 1.
b) BasicDataDerivative > TotalIssue: This field would be blank in Phase 1.
c) BasicDataRight > TotalIssue: This field would be blank in Phase 1.
d) BasicDataShare > AvailableQtyStartDate, AvailableQtyEndDate: These fields may be blank for some instruments.
e) BasicDataUnderlyingInfo: This message would not be used in Phase 1.
f) BasicDataTradable > ClearingVenueId: This field represents the clearing venue defined in BasicDataClearingVenue message, and following the specification of clearing venue this field would be filled.
g) BasicDataTradable > NoOfSettlementDays: This field would be blank as long as there is no specification for this information.
h) BasicDataTradable > ShortSellValidation: In Phase 1, this field is expected to be blank.
i) BasicDataExchange > MicCode: This field is given at Exchange level in Phase 1, and is planned to be disseminated at market level in Phase 2.
j) BasicDataSector > CodeLevel: For Phase 1, Code level is expected to be "1" for all sectors that does not refer any kind of sector hierarchy.
k) BasicDataIndex > SectorId: In Phase 1, this field is expected to be blank.
l) IndexSummary > OpenValue: This field would be blank in start-of-day messages, and would show the first tick value of an index at the end of day message.
m) BasicDataRight > Exercise from/to date: These fields refer the open/end dates of Rights Coupon Market.
n) BasicDataTradable > Symbol: This field's character size is set to 32 at maximum whereas for each instrument different number of characters can be disseminated. It is crucial to make developments to handle this symbol structure by data vendors.
o) VWAPDiffPer: This field would be disseminated as "zero" whenever the previous day's "closing VWAP" is empty.
p) Trade, TradeStatistics: There is not a single TradeStatistics message for a single Trade message. TradeStatistics message shows the statistics occurred as a result of all trades that are executed as of the execution time.
q) BasicDataDerivative > ExerciseToDate: This field indicates a date which is 15/16 days later than the last trade date for all warrants and certificates that are traded on November 30, 2015 (the launch of BISTECH Trading Platform).

On the other hand, FTP files would be received via BISTConnect by data vendors, and it is the responsibility of data vendors to access this infrastructure and test the connection.

8. CONTENT OF DATA PACKAGES

Data Package: "BORSA ISTANBUL END OF DAY DATA"

BasicDataTableEntry
BasicDataTradable
BasicDataMarket
BasicDataExchange
BasicDataIssuer
BasicDataSector
BasicDataSectorMember
BasicDataTickSizeTable
BasicDataTickSizeEntry
BasicDataClearingVenue
BasicDataSource
BasicDataNonTradingDays
BasicDataBusinessDate
EndOfBasicData

OrderbookSummary

Data Package: "BORSA ISTANBUL INDICES END OF DAY DATA"

BasicDataTableEntry
BasicDataTradable
BasicDataMarket
BasicDataExchange
BasicDataIssuer
BasicDataSector
BasicDataSectorMember
BasicDataTickSizeTable
BasicDataTickSizeEntry
BasicDataClearingVenue
BasicDataSource
BasicDataNonTradingDays
BasicDataBusinessDate
EndOfBasicData
BasicDataIndex
BasicDataIndexMember
BasicDataIndexSupplementary

IndexSummary

Data Package: "BORSA İSTANBUL INDICES"

BasicDataIndex**
BasicDataIndexMember**
BasicDataIndexSupplementary**
BasicDataTableEntry
BasicDataTradable
BasicDataMarket
BasicDataExchange
BasicDataIssuer
BasicDataSector
BasicDataSectorMember
BasicDataTickSizeTable
BasicDataTickSizeEntry
BasicDataClearingVenue
BasicDataSource
BasicDataBusinessDate
BasicDataNonTradingDays
EndOfBasicData
IndexUpdate
IndexSummary **

Data Package: "BORSA İSTANBUL LIMITED LEVEL 1 DATA"

BasicDataExchange
BasicDataMarket
BasicDataShare
BasicDataDerivative
BasicDataFund
BasicDataRight
BasicDataTableEntry
BasicDataBusinessDate
BasicDataTradable
BasicDataSector
BasicDataSectorMember
BasicDataIssuer
BasicDataClearingVenue
BasicDataParticipant
BasicDataNonTradingDays
BasicDataTradingScheme
BasicDataTickSizeTable
BasicDataTickSizeEntry
BasicDataSource
EndOfBasicData
CorporateAction
TradeStatistics1
StateChange
News
OrderbookSummary*

Data Package: "BORSA İSTANBUL LEVEL 1 DATA"

BasicDataExchange
BasicDataMarket
BasicDataShare
BasicDataDerivative
BasicDataFund
BasicDataRight
BasicDataTableEntry
BasicDataBusinessDate
BasicDataTradable
BasicDataSector
BasicDataSectorMember
BasicDataIssuer
BasicDataClearingVenue
BasicDataParticipant
BasicDataNonTradingDays
BasicDataTradingScheme
BasicDataTickSizeTable
BasicDataTickSizeEntry
BasicDataSource
EndOfBasicData

CorporateAction
TradeStatistics2
StateChange
OrderbookReferencePrice
Orderbook1 (defined at the price level of 1/best bid & ask prices)
MarketMakerQuote1
News
OrderbookSummary*

Data Package: "BORSA İSTANBUL LEVEL 1+ DATA"

BasicDataExchange
BasicDataMarket
BasicDataShare
BasicDataDerivative
BasicDataFund
BasicDataRight
BasicDataTableEntry
BasicDataBusinessDate
BasicDataTradable
BasicDataSector
BasicDataSectorMember
BasicDataIssuer
BasicDataClearingVenue
BasicDataParticipant
BasicDataNonTradingDays
BasicDataTradingScheme
BasicDataTickSizeTable
BasicDataTickSizeEntry
BasicDataList
BasicDataListMember
BasicDataSource
EndOfBasicData

CorporateAction
TradeStatistics3
StateChange
OrderbookReferencePrice
Orderbook2 (defined at the price level specified in the Agreement)
Trade
MarketMakerQuote1
News
CallInformation2
OrderbookSummary*
TurnoverListUpdate

Data Package: "BORSA İSTANBUL LEVEL 2 DATA"

BasicDataExchange
BasicDataMarket
BasicDataShare
BasicDataDerivative
BasicDataFund
BasicDataRight
BasicDataTableEntry
BasicDataBusinessDate
BasicDataTradable
BasicDataSector
BasicDataSectorMember
BasicDataIssuer
BasicDataClearingVenue
BasicDataParticipant
BasicDataNonTradingDays
BasicDataTradingScheme
BasicDataTickSizeTable
BasicDataTickSizeEntry
BasicDataList
BasicDataListMember
BasicDataSource
EndOfBasicData

CorporateAction
TradeStatistics3
StateChange
OrderbookReferencePrice
Orderbook3 (defined at the price level specified in the Agreement)
Trade
MarketMakerQuote1
News
CallInformation2
OrderbookSummary*
TurnoverListUpdate

Data Package: "REFERENCE DATA/ BORSA ISTANBUL INDEX CONSTITUENTS DATA"

BasicDataSource
BasicDataTableEntry
BasicDataTradable
BasicDataMarket
BasicDataExchange
BasicDataIssuer
BasicDataSector
BasicDataSectorMember
BasicDataTickSizeTable
BasicDataTickSizeEntry

BasicDataClearingVenue
BasicDataIndex
BasicDataIndexMember
BasicDataIndexSupplementary
BasicDataBusinessDate
BasicDataNonTradingDays
EndOfBasicData
IndexWeight

Data Package: "REFERENCE DATA/ BORSA ISTANBUL DESCRIPTIVE DATA"

BasicDataTradableSupplementary
BasicDataIndexSupplementary
EndOfBasicData
BasicDataSource

Note: Please note that this data package is currently under negotiation with Takasbank & a separate announcement will be made to inform the start of dissemination. Until then, the data vendors will continue their current business model to disseminate the descriptive data.

Data Package: "BORSA İSTANBUL DATA ANALYTICS DATA"

BasicDataSource
BasicDataShare
BasicDataTableEntry
BasicDataDerivative
BasicDataFund
BasicDataRight
BasicDataTradable
BasicDataIssuer
BasicDataTickSizeTable
BasicDataTickSizeEntry
BasicDataClearingVenue
BasicDataExchange
BasicDataMarket
BasicDataBusinessDate
BasicDataNonTradingDays
BasicDataTradingScheme
BasicDataSector
BasicDataSectorMember
BasicDataParticipant
BasicDataIndex
BasicDataIndexMember
BasicDataIndexSupplementary
BasicDataList
BasicDataListMember
EndOfBasicData
StateChange
CorporateAction
News

(*) Since Limited Level 1, Level 1, Level 1+, Level 2 data packages are disseminated together with the End of Day Data package, the messages marked with "*" are indicated under the scope of these data packages.

(**) Since Borsa İstanbul Indices data package is disseminated together with the Indices End of Day Data package, the messages marked with "**" are indicated under the scope of these data packages.