

MDP 3.0 - Trade Summary Order Level Detail

This topic provides additional information on the order level data contained within the Trade Summary.

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Trade Summary Message Structure

Leveraging the Order Detail information provides a more granular view into trade events, access to fill information, and supports Time and Sales and charting applications. Each Order Detail repeating group can be rationalized to the corresponding summary level entry; details on how to process the information are included below.

The Trade Summary message uses two key structures to report match events:

- **Summary Level repeating groups** - contain consolidated trade information by instrument and price.
 - All trades with a single aggressing order are reported together in a single event.
 - Tag 346-NumberOfOrders in each Summary Level entry indicates the number of repeating groups in the associated Order Detail.
- **Order Detail repeating groups** - each group is associated with a single Summary Level, and contains detailed order participation information.



CME Group strongly recommends all client systems processing MDP3.0 messages support the Order Detail information.

Client systems may process Trade Summary Messages at the Summary Level if only top-level information – price, quantity, number of participating orders and instrument - are required.

Trade Summary Message Processing

The following guidelines will assist client system developers in determining how to process the Order Detail repeating groups.

Trades with a Defined Aggressor

An aggressor is defined as any customer order that triggers a trade immediately upon entering the book.

Tag 5797-AggressorSide indicates if the trade had an aggressor and, if so, which side of the book it was on. When an Aggressor Side is defined (1 = Buy, 2 = Sell), the first Order Detail level related to the Summary Level represents that aggressor order.

- The aggressor quantity (tag 32) in the first Order Detail entry is equal to the Summary Level fill quantity (tag 271)
 - If the aggressor quantity (tag 32) in the first Order Detail entry is equal to the sum of the remaining Order Detail entries quantity associated with that Summary Level, only customer orders were filled in the trade
 - If the aggressor quantity (tag 32) is **not** equal to the sum of the remaining Order Detail entries quantity associated with that Summary Level, customer and implied orders were filled in the trade. The unreported quantity are the participating implied orders.
 - There may be only **one** Order Detail entry present, which means an aggressing customer order traded against implied orders only.
- The aggressor quantity (tag 32) in the first Order Detail entry is **not** equal to the Summary Level fill quantity (tag 271)
 - In this case, the aggressor joined a pool of resting orders and thereby created sufficient quantity to trigger a trade.
 - This scenario can occur in any ratio spread where a different minimum quantity is required for each leg in order for the spread to trade. Examples include IVR and butterfly spreads.

Trade without a Defined Aggressor

There are two scenarios where a trade may not have a defined aggressor (tag 5797-AggressorSide=0).

- When an aggressing customer order trades against implied orders, at least one Summary Level will **not** have a defined aggressor.
 - The Summary Level with an undefined aggressor type represents the customer orders that created the executed implied orders.
 - Order Details are only sent for the customer orders. Any unreported quantity represents the participating implied orders.
 - Side (buy and/or sell) are not defined.
- Market Open or Re-Open after a [Velocity Logic Event](#)
 - For a scheduled Market Open, opening resolution trades are in the first Trade Summary message following a [MDP 3.0 - Market Data Security Status](#) message where tag 326-SecurityTradingStatus=15 (New Price Indication).
 - For a Re-Open after a Velocity Logic Event, opening resolution trades are in the first Trade Summary message following a Market Data Security Status message (tag35-MsgType=f) where tag 326-SecurityTradingStatus=21 (Pre-Open).
 - The following are the characteristics for both scheduled Market Opens and Re-Opens following a Velocity Logic Event:

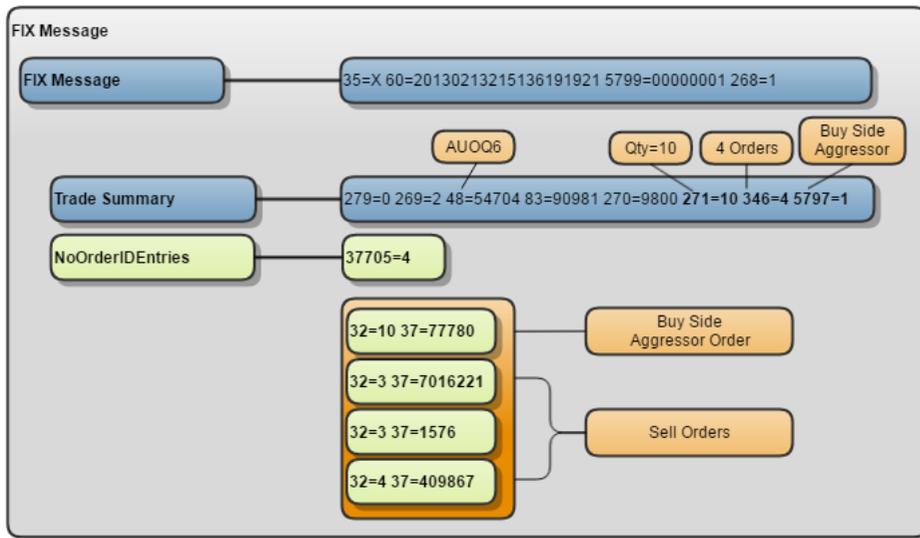
- Order Detail entries are non-deterministic
- Both buys and sells are reported
- The sum of the Order Detail quantities (all tag 32-LastQty values), divided by 2, will equal tag 271-MDEntrySize. Both sides of the entire trade event are represented.

 CME recommends that customers report the market opening trades or the trades that occur after a Velocity Logic Event at the Summary Level.

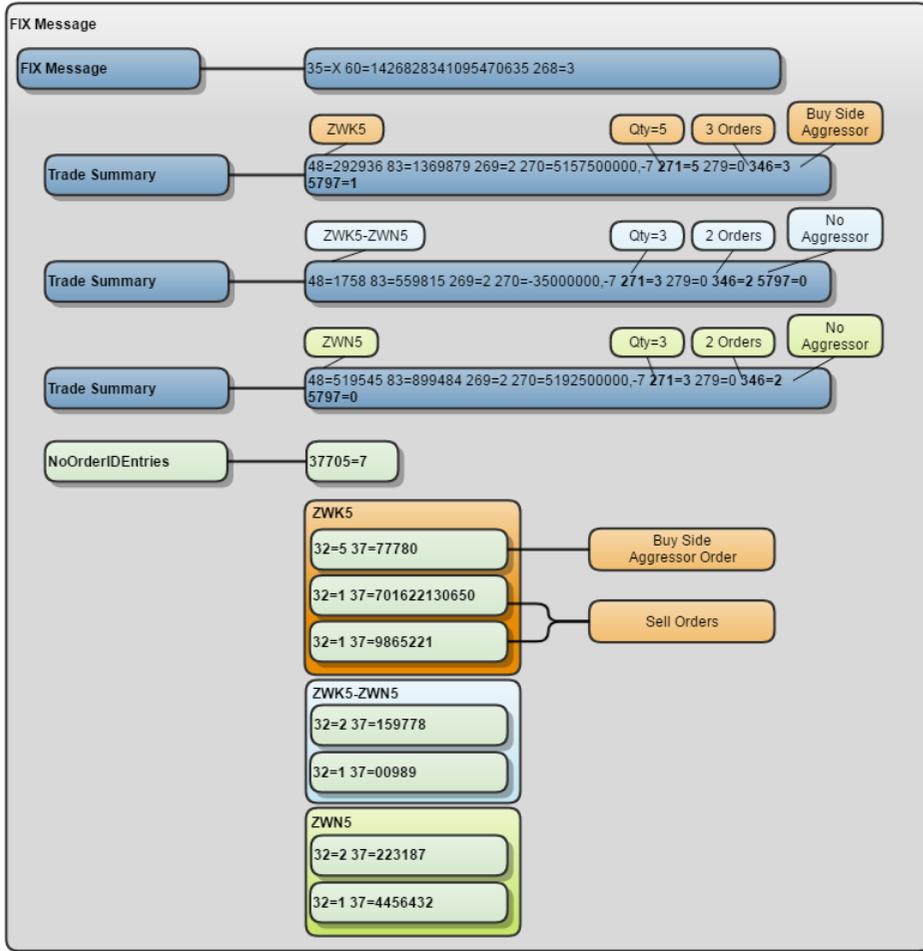
Additionally, trades that **only** involve implied orders are not published in a Trade Summary message, but volume and price statistics are updated real-time.

Examples

Example 1 - Trade with Customer Orders



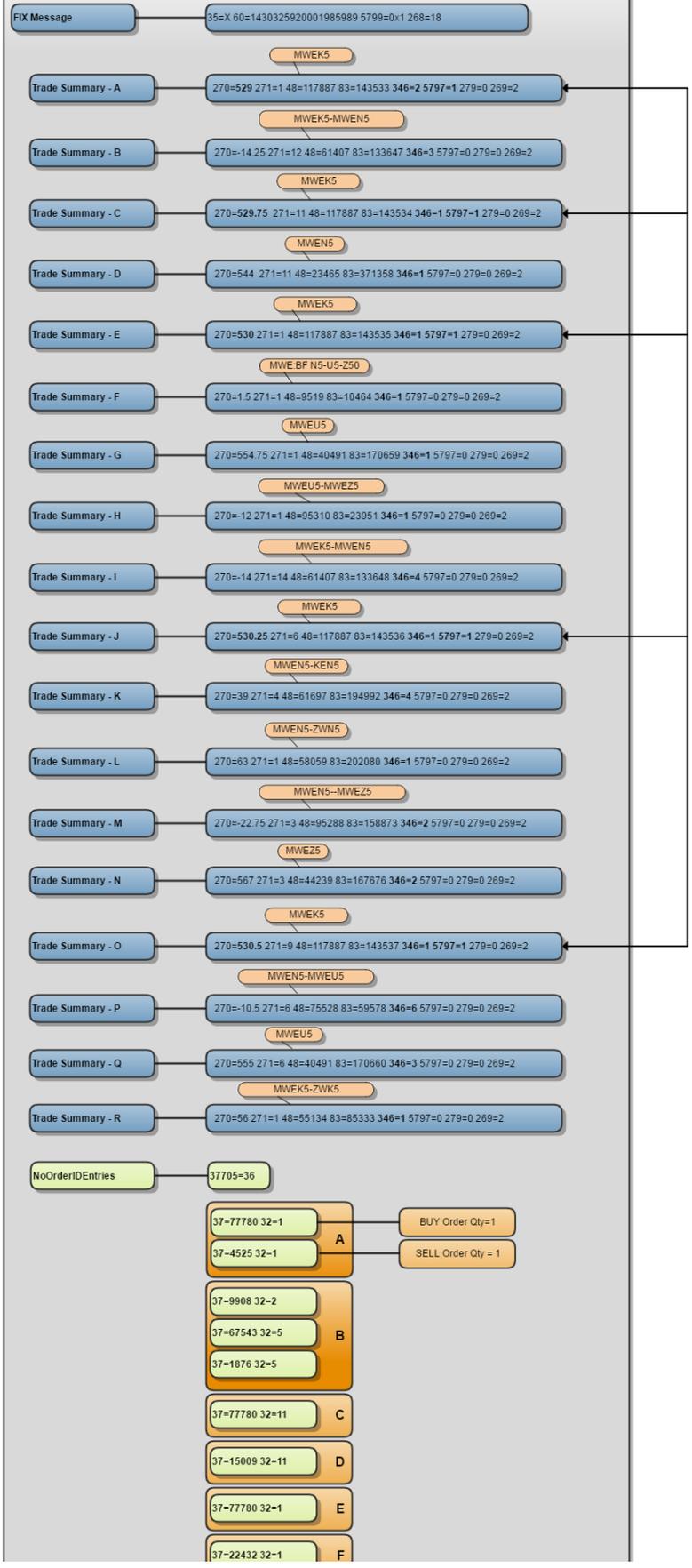
Example 2 - Trade with Customer and Implied Orders



Example 3 - One Aggressor Trading at Multiple Prices Against Customer and Implied Orders

The following diagram shows how the Trade Summary groups A - R correlate to the Order Level details A-R with tag 346-NumberOfOrders indicating the number of groups for each corresponding Order Level entry.

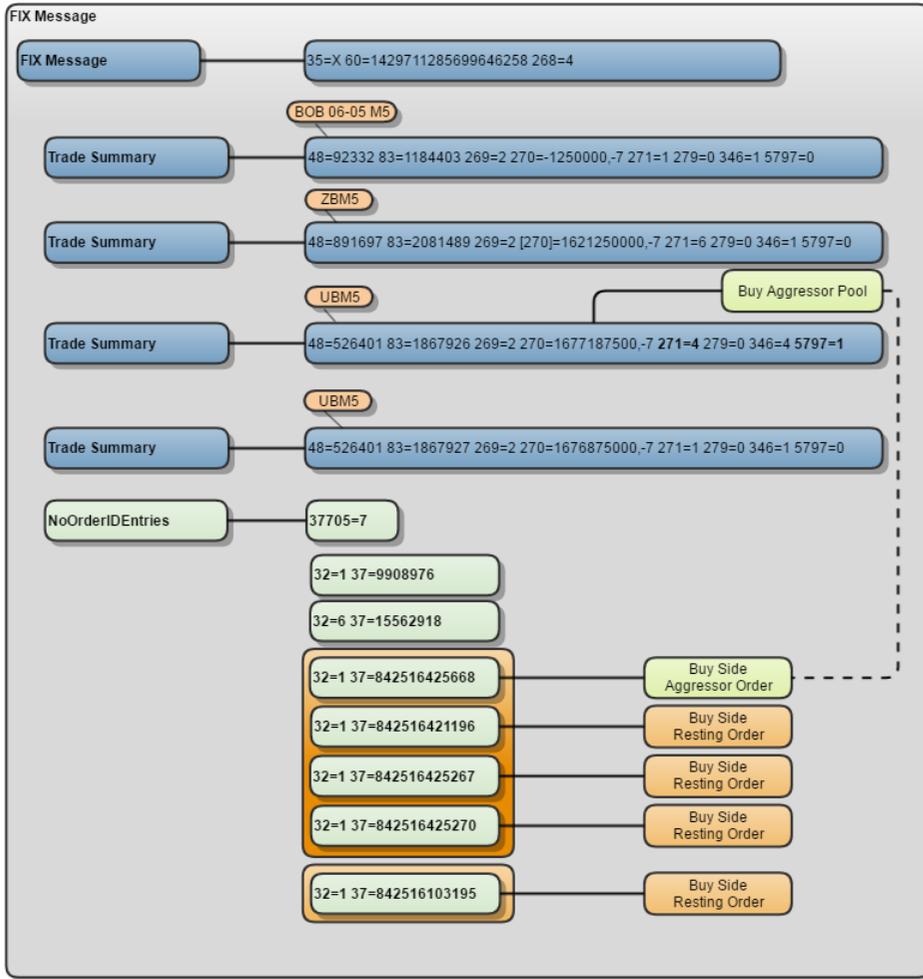
FIX Message



BUY Side Aggressor

37-6142 32=1	G
37-8491 32=1	H
37-0198 32=5	I
37-11678 32=4	
37-9901 32=4	
37-66543 32=1	
37-77780 32=6	J
37-44345 32=1	K
37-21321 32=1	
37-00987 32=1	
37-33871 32=1	
37-5926 32=1	L
37-28804 32=1	M
37-0789 32=2	
37-1319 32=1	N
37-56987 32=2	
37-77780 32=9	O
37-7165 32=1	P
37-9936 32=1	
37-09812 32=1	
37-33588 32=1	
37-0887 32=1	
37-70216 32=1	
37-8432 32=4	Q
37-3376 32=1	
37-15872 32=1	
37-701649672567 32=1	R

Example 4 - Ratio Spread Trade with Distributed Fills



Example 5 - Market Open / New Price Indication

35=f 48=null 60=1430172000002228371 75=16553 326=15 327=0 1151=ES 1174=0 5799=00000000

Market Data Security Status Message

New indication price

35=X 60=1430172000002228371 268=1

ESM5

48=85974 83=3333947 269=2 270=2103750000000,-7 271=73 279=0 346=35 5797=0 5799=00000001

35 orders

No aggressor

37705=35

35 Order Detail Repeating Groups

32=1 37=98726543

32=10 37=66578

32=1 37=2234176

32=1 37=0009876

32=3 37=4443567

32=1 37=66754

32=1 37=887600

32=3 37=3324517

32=10 37=877654

32=1 37=1124167

32=11 37=776865

32=5 37=221567

32=1 37=6656708

32=17 37=665798

32=5 37=618191

32=33 37=998987

32=1 37=4435433

32=1 37=32165

32=2 37=33254

32=2 37=001298

32=1 37=66767

32=1 37=432346

32=1 37=7678654

32=20 37=61123

32=1 37=88129

32=1 37=554577

32=1 37=112124

32=1 37=70486

32=1 37=55098

32=1 37=44343

32=1 37=504567

32=1 37=609034

32=1 37=443543

32=2 37=1122309

32=2 37=767898

total quantity (tag 32) = 146