MDP 3.0 - Incremental Refresh SBE Template Book Processing for MBOFD

This topic describes Incremental Refresh SBE template book processing for Market by Price (MBP) and Market by Order Full Depth (MBOFD). MBP disseminates an aggregate book with summarized order quantities and order counts at a given price level for an instrument. MBOFD disseminates individual orders and quotes at every price level for the given instrument.

For bandwidth efficiency, CME Globex uses two SBE templates to send Market Data Incremental Refresh (tag 35-MsgType=X) book updates. The examples below describe template processing scenarios.

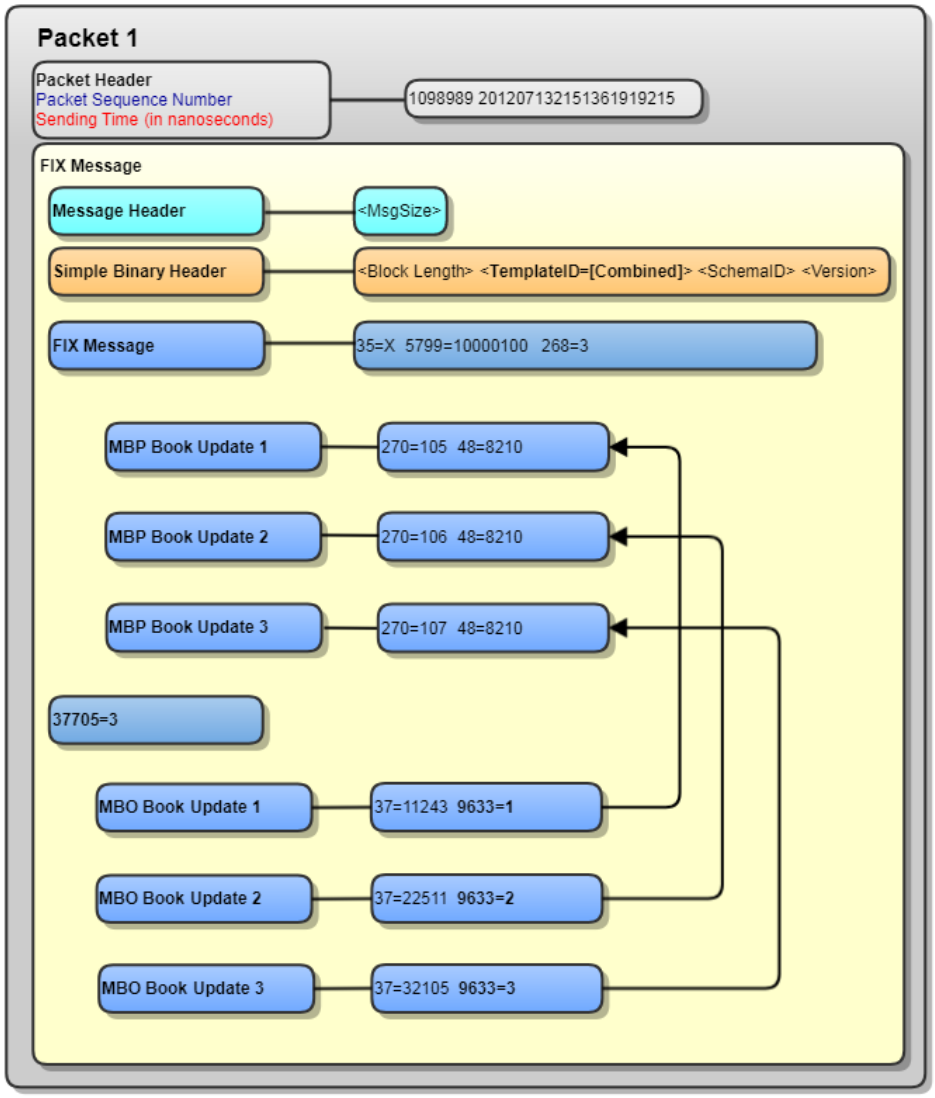
Currently:

- the MBOFD-MBP combined template id is 46
- the MBOFD only template id is 47

MBOFD follows MDP3 packet structure conventions.

MBP and MBOFD Combined Template

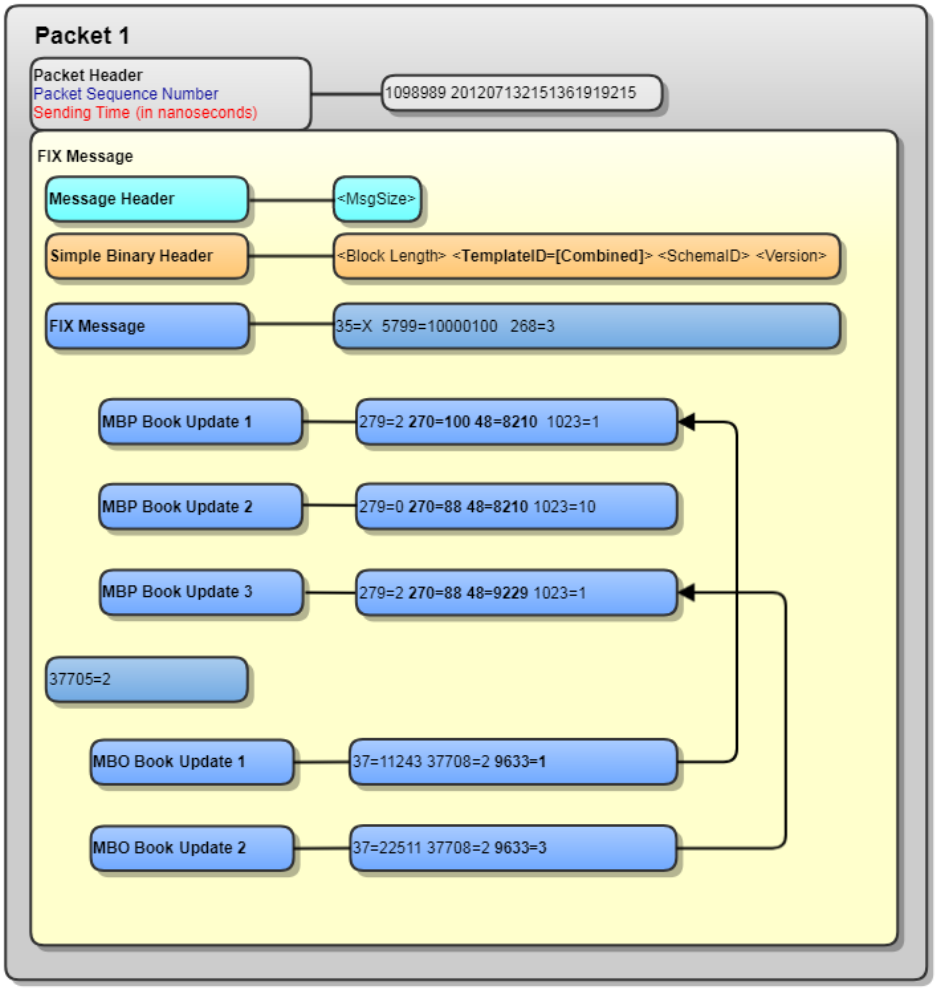
MBP and MBOFD book updates can occur in the same SBE message if it uses the combined template. Tag 9633-ReferenceID is used to link the MBOFD repeating group to the MBP repeating group to obtain tag 270-MDEntryPx and tag 48-SecurityID. The combined template uses 37708-OrderUpdateAction for MBOFD book update actions. The combined SBE message will only be used within a single packet.



MBP and MBOFD Combined Template - Multiple Instruments and Asymmetric Updates

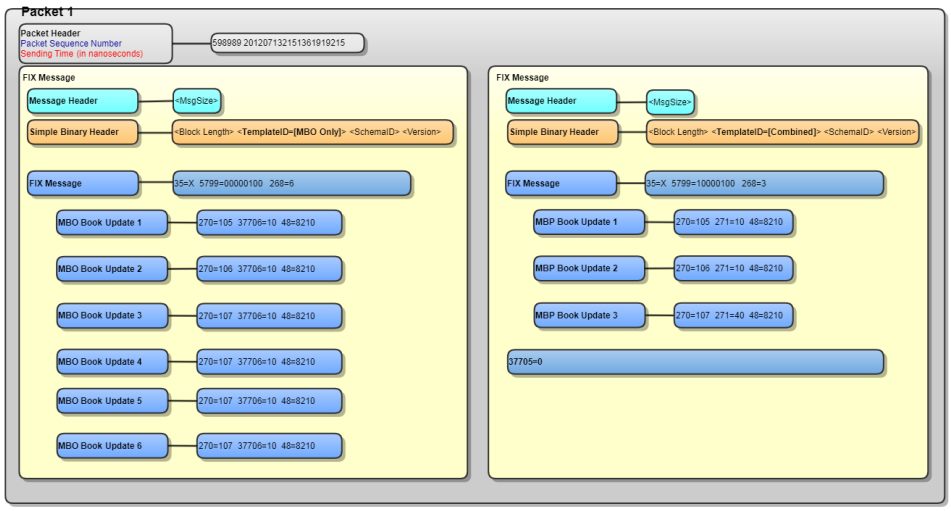
An MBP and MBOFD book update can occur in the same SBE message (if it uses the combined template) with different instruments and updates. Tag 9633-ReferenceID is used to link the MBOFD repeating group to the MBP repeating group tag 270-MDEntryPx and tag 48-SecurityID for each instrument.

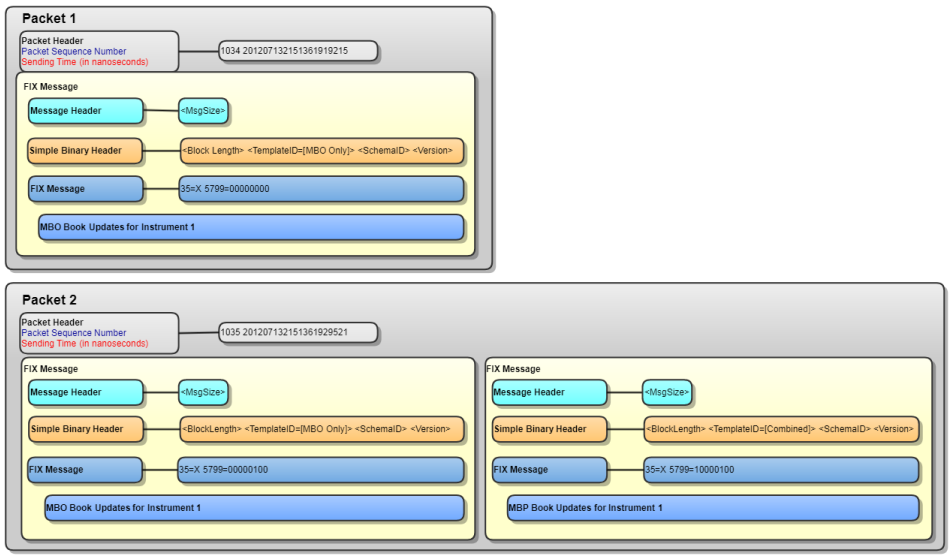
In the example below, MBP Book Update 2 does not generate an MBOFD book update because the order was already sent via MBOFD and existed outside the maximum ten MBP aggregate levels.



MBP and MBOFD - Separate Templates

For book updates in a single event, MBP and MBOFD information can be sent in separate templates. In this scenario, the combined template will be used for MBP book updates and the MBOFD only template will be used for MBOFD book updates. The MBOFD only template uses tag MDUpdateAction-279 for MBOFD book update actions. The MBOFD update comes before the MBP book update.



MBP and MBOFD - Multiple Packets

An MBOFD book update may span multiple packets. Each MBOFD update across packets will have seperate Market Data Incremental Refresh (tag 35-MsgType=X) messages. The example below shows an MBOFD and MBP update across multiple packets for one instrument.