Incremental Refresh SBE Template Book Processing

This topic describes Incremental Refresh SBE template book processing for Market by Price (MBP) and Market by Order (MBO). MBP disseminates an aggregate book with summarized order quantities and order counts at a given price level for an instrument. MBO 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.
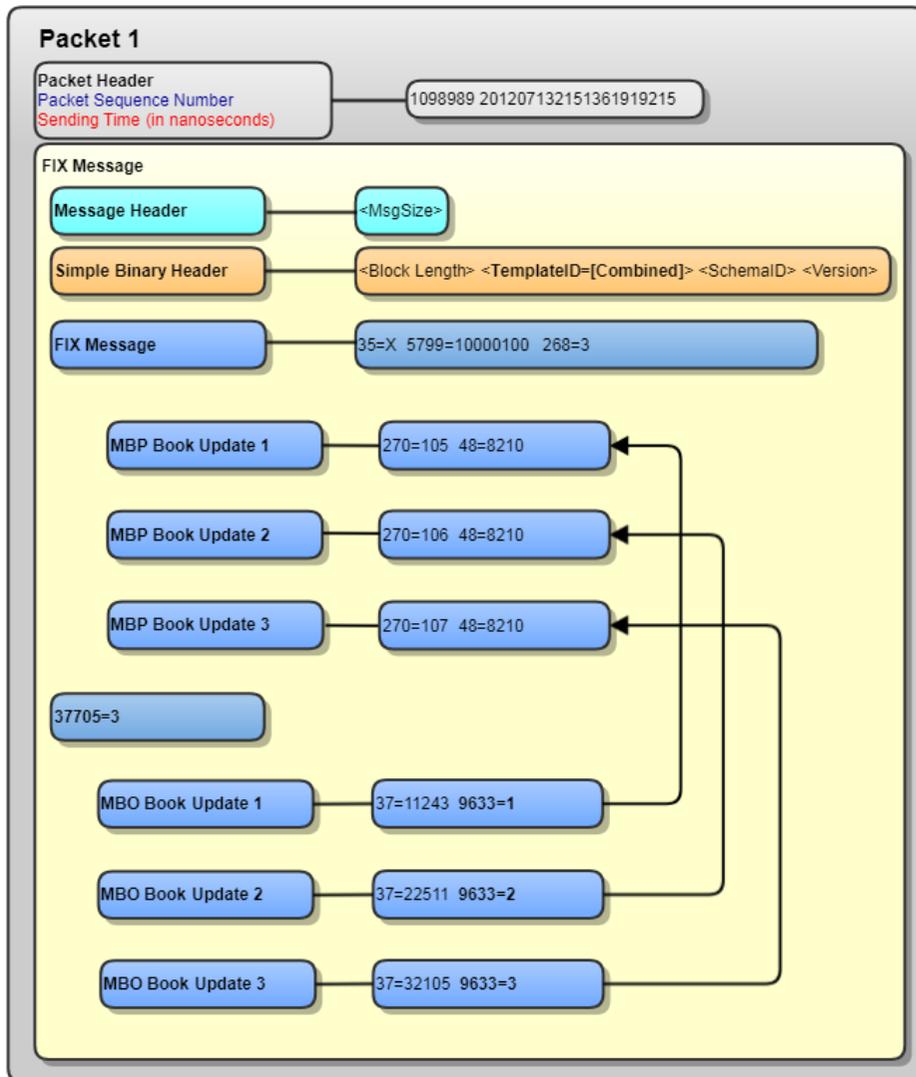

ⓘ Currently:

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

ⓘ MBO follows MDP3 packet structure conventions.
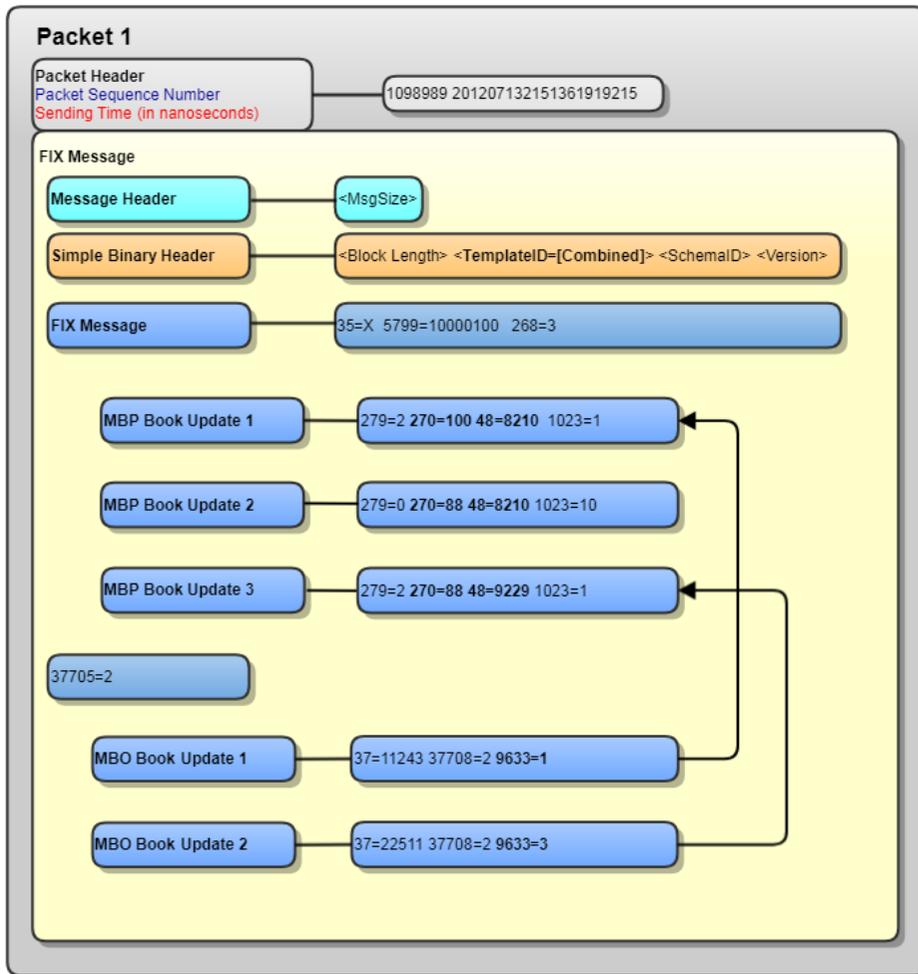

MBP and MBO Combined Template

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

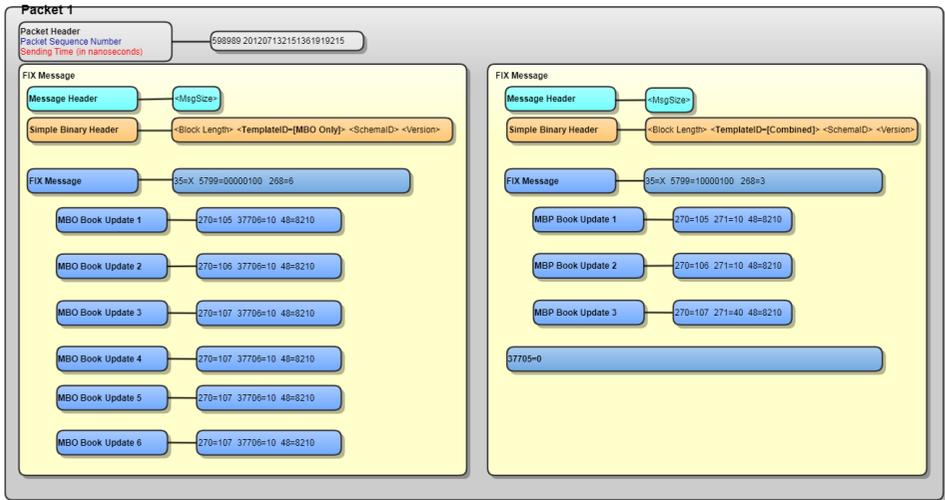## MBP and MBO Combined Template - Multiple Instruments and Asymmetric Updates

An MBP and MBO 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 MBO 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 MBO book update because the order was already sent via MBO and existed outside the maximum ten MBP aggregate levels.

MBP and MBO - Separate Templates

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

MBP and MBO - Multiple Packets

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