EBS Spectrum Market Data

This topic provides information on EBS Spectrum Market Data Platform (MDP) functionality. The Spectrum integration will provide Time Weighted Average Price (TWAP) and Volume Weighted Average Price (VWAP) market data for the following markets:

- FX Spot
- Precious Metal Spot

Contents

Revision History

Date	Description

November 11, 2021	"CME MDP Conflated Transmission Control Protocol (TCP)" - CME MDP Conflated TCP market data group supports one ~~second~~ **minute** conflation over TCP unicast in Simple Binary Encoding (SBE). Each Conflated TCP channel market data group has separate I/P and ports, therefore session activity will only apply to their respective channels. "Conflated Market Data Processing" - EBS Spectrum MDP supports a one ~~second~~ **minute** conflation interval.
August 17, 2021	"Conflated Market Data Processing" - "If there is no activity within the configured 1 ~~second~~ **minute** interval EBS Spectrum resets the conflation interval to 1 ~~second~~ **minute** and waits to publish the next market event. If there is no activity within the publication interval for an instrument, no message will be published."
August 11, 2021	"Conflation Market Data Examples" - Changed conflation intervals for published messages from 1 second to 1 minute.
April 7, 2021	Initial publication

Key Events and Dates

The full New Release and Production launch schedule is available at EBS Market on CME Globex Launch Schedule.

EBS Market Data Services Overview

The following market data services will be offered for EBS Spectrum markets.

Market	Market Data Group Option(s)	Channel ID	Description
EBS Spectrum	CME MDP Conflated TCP- Spectrum	550	• TWAP/VWAP market data • 1 minute conflated messaging • TCP Connectivity • Simple Binary Encoding (SBE)

Getting Started with CME Market Data Processing

This section provides an overview of current CME Group market data technology processing concepts that will be used for the EBS Spectrum feeds. If you are new to CME Group MDP technologies or wish to better understand how your current CME Group system aligns with upcoming EBS Spectrum functionality, CME Group recommends starting here.

Category	CME Globex Concepts & Links	CME MDP Conflated TCP Support?	Notes
Message Encoding	Simple Binary Encoding (SBE)	Yes	Encoding type for EBS Spectrum.

Testing and Certification

Certification via AutoCert+ is required for all client systems that will support EBS Spectrum MDP.

CME Globex Test Environments

See EBS Integration - Environments Overview for more information on CME Globex test environments.

EBS Spectrum MDP will launch **first** in the New Release environment.

MDP Dissemination

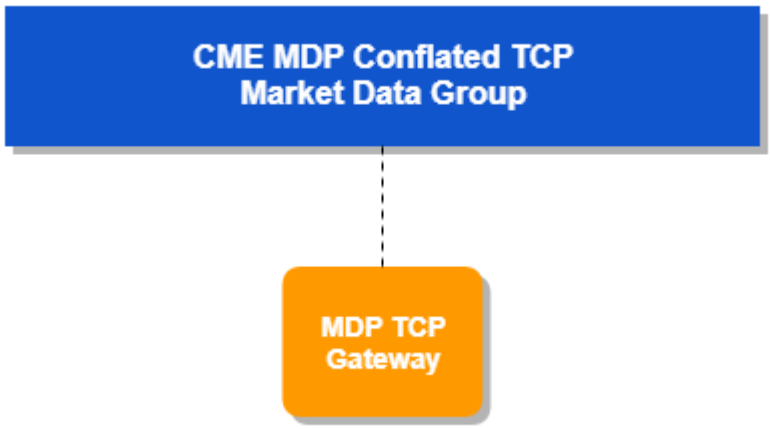
The CME Group Market Data Platform (MDP) disseminates bid, ask, and trade data for CME Group markets and provides recovery and supporting services for market data processing.

Market Data Group

Market data is organized by Market Data Group, which is a configuration of MDP channels providing all market data required to support markets for a given product or set of products. EBS on CME Globex will have one of the following Market Data Groups:

CME MDP Conflated Transmission Control Protocol (TCP)

CME MDP Conflated TCP market data group supports one minute conflation over TCP unicast in Simple Binary Encoding (SBE). Each Conflated TCP channel market data group has separate I/P and ports, therefore session activity will only apply to their respective channels.



CME MDP Component Overview

This section provides an overview of MDP components for EBS Spectrum MDP.

TCP MDP Gateway

TCP MDP Gateway disseminates CME Group market data using TCP encoded packets.

CME MDP Conflated TCP - System Startup

This section provides an overview of the startup procedure on CME Globex for the CME MDP TCP feed.

Early and Late Joiner Startup

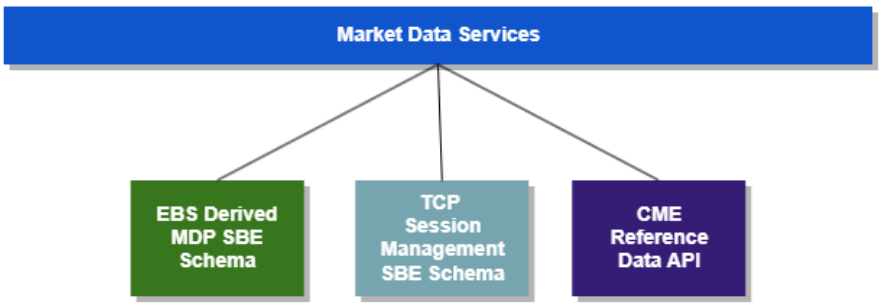
For a startup prior to the weekly market open and for a late joiner startup, to obtain all entitled data and subsequent updates, it is recommended clients send the following request with the type equal to Snapshot and Updates (tag 263-SubscriptionReqType=1):

- Market Data Request Message (35-MsgType=V)

For more information regarding request messages see MDP Conflated TCP - Request Messaging.

Market Data Support Services

Market data services provide the external data required to process CME Group market data.



Support Services

There are three MDP services available for EBS markets on EBS Spectrum: EBS Derived SBE Schema, TCP Session Management SBE Schema and CME Reference Data API. An FTP site is used to store the schema files and configuration files for all environments.

Service	Description
EBS Derived MDP SBE Schema	MDP is a template-based SBE protocol wherein a given message is interpreted by means of its corresponding template. Each message contains a unique Schema ID that references the template to use to interpret the message. This schema contains mess aging such as TWAP/VWAP and Market Best Bid/Offer.
TCP Session Management SBE Schema	An SBE schema for client systems to receive CME Group session management templates for the CME MDP Conflated TCP market data group.
CME Reference Data API	Additional product and instrument referential data can be obtained via CME Reference Data API.

FTP/SFTP Site Information

CME provides an FTP (ftp://ftp.cmegroup.com) and SFTP (sftpng.cmegroup.com) site to disseminate MDP SBE schemas and market data configuration information. This FTP/SFTP site contains the schema and configuration files for all events.

Information applies as follows in the table:

- Environment - specific environment (i.e., Certification, Certification AutoCert+, New Release, New Release Autocert+, Production)
- Service - EBS Derived MDP SBE Schema, TCP Session Management SBE Schema
- FTP/SFTP Site - address of the FTP/SFTP site
- Directory Location - identifies directory
- Client System Update Schedule - client systems should download updates according to schedule specified

Environment	Service	FTP/SFTP Site	Directory Location	Client System Update Schedule
Certification	EBS Derived MDP SBE Schema	ftp.cmegroup.com or sftpng.cmegroup.com	/SBEFix/Cert/DerivedMDP/Templates/	Sunday prior to market open
	TCP Session Management SBE Schema		/SBEFix/Cert/SessionManagement /Templates/	Sunday prior to market open
Certification AutoCert+	SBE Schema		/SBEFix/CertAutoCertPlus/Templates	Sunday prior to market open
	TCP Session Management SBE Schema		/SBEFix/CertAutoCertPlus /SessionManagement/Templates/	Sunday prior to market open
New Release	EBS Derived MDP SBE Schema		/SBEFix/NRCert/DerivedMDP/Templates/	Sunday prior to market open
	TCP Session Management SBE Schema		/SBEFix/NRCert/SessionManagement /Templates/	Sunday prior to market open
New Release Autocert+	EBS Derived MDP SBE Schema		/SBEFix/NRAutoCertPlus/Templates	Sunday prior to market open
	TCP Session Management SBE Schema		/SBEFix/NRAutoCertPlus /SessionManagement/Templates/	Sunday prior to market open
Production	EBS Derived MDP SBE Schema		/SBEFix/Production/DerivedMDP/Templates/	Sunday prior to market open
	TCP Session Management SBE Schema		/SBEFix/Production/SessionManagement /Templates/	Sunday prior to market open

Channel Guide

The EBS Spectrum channel is shown below. For more information on Market Data Groups, see MDP Dissemination.

Market	Market Data Group Option(s)	Channel ID

EBS Spectrum	CME MDP Conflated TCP	550

Simple Binary Encoding Schema Overview

The following section outlines key concepts for Simple Binary Encoding (SBE) schema processing on EBS Spectrum. For tag level messaging details, see the specification section.

Core CME Globex SBE Schema Overview

With the launch of EBS Spectrum on CME Globex, the core Simple Binary Encoding (SBE) schema will be launched.

The following table outlines the Derived MDP SBE schema template mapping for market data groups:

Market Data Group	**Current Supported Templates**
CME MDP Conflated TCP - EBS Spectrum	• Negotiate200 • NegotiationReject201 • NegotiationResponse202 • Terminate203 • MarketDataRequest205 • RequestAck206 • RequestReject207 • SubscriberHeartbeat210 • AdminHeartbeat302 • MDIncrementalRefreshSpectrum303 • MDSnapshotRefreshSpectrum305

TCP Session Management SBE Schema Overview

The TCP Session Management SBE Schema will be exclusively used for the MDP TCP Gateway market data group. TCP Session Management Schema is SBE release version 1.0 candidate 4, however the schema is compatible with SBE release version 1.0 candidate 2 systems. The new SBE schema is named **mdpsessionmgmt**.xml.

EBS Spectrum Messaging

EBS Spectrum includes the TWAP/VWAP messaging.

Message	**Description**
TWAP	TWAP is the sum of the prices, divided by the number of completed deals. TWAP is based on price only and does not consider the traded amount.
VWAP	VWAP is the sum of the deal prices multiplied by the deal amount, divided by the total amount of all trades within the conflation interval.

EBS Spectrum TWAP/VWAP Message (35=X) Tag Usage

The following table outlines tag usage for TWAP/VWAP messages.

Tag	**Name**	**Description**	**MRF Field Replaced**	**TWAP**	**VWAP**
60	TransactTime	Publication event time, sent in number of nanoseconds since Unix epoch	Update Date /Time	Available	Available

<table>
<tr><td>5799</td><td>MatchEventIndicator</td><td>BitSet<table><tr><th>Name</th><th>Bit</th><th>Description</th></tr><tr><td>EndOfEvent</td><td>7</td><td>1=Last message for calculation event or the publication interval</td></tr><tr><td>RecoveryMessage</td><td>6</td><td>1=Message sent in recovery and may be a duplicate</td></tr></table></td><td>-</td><td>Available</td><td>Available</td></tr>
<tr><td>268</td><td>NoMDEntries</td><td>Number of elements in the message (groupSize)</td><td>-</td><td>Available</td><td>Available</td></tr>
<tr><td>279</td><td>MDUpdateAction</td><td>Market Data update action. Always 0=(new)</td><td>-</td><td>0</td><td>0</td></tr>
<tr><td>269</td><td>MDEntryType</td><td>Market Data entry type, identifies the element<table><tr><th>Name</th><th>Value</th></tr><tr><td>VWAP</td><td>9</td></tr><tr><td>TWAP</td><td>t</td></tr></table></td><td>Element Name</td><td>t=TWAP</td><td>9=VWAP</td></tr>
<tr><td>48</td><td>SecurityID</td><td>SecurityID as referenced in MDP3 and Ilink3 protocols</td><td>-</td><td>Available</td><td>Available</td></tr>
<tr><td>55</td><td>Symbol</td><td>Unique instrument Symbol</td><td>-</td><td>Available</td><td>Available</td></tr>
<tr><td>37513</td><td>InstrumentGuid</td><td>External unique instrument ID</td><td>-</td><td>Available</td><td>Available</td></tr>
<tr><td>2714</td><td>FinanicalInstrumentFullName</td><td>Financial instrument long name

e.g. FXSPOT.EURUSD</td><td>Description</td><td>Available</td><td>Available</td></tr>
<tr><td>270</td><td>MDEntryPx</td><td>Market Data entry price</td><td>PriceNull9</td><td>TWAP Value</td><td>VWAP Value</td></tr>
<tr><td>271</td><td>MDEntrySize</td><td>Market Data entry size</td><td>Amount</td><td>Number of Trades</td><td>The Notional Volume for the Interval</td></tr>
<tr><td>273</td><td>MDEntryTime</td><td>Time of the last market event that contributed to element calculation or publication. Sent in UTC format.</td><td>Price Date/Time</td><td>Available</td><td>Available</td></tr>
</table>

Conflated Market Data Processing

This section describes functionality for the CME MDP Conflated UDP and CME MDP Conflated TCP market data groups for EBS Spectrum. Conflated market data combines multiple updates within an interval into a single event. EBS Spectrum MDP supports a one minute conflation interval. When the conflation interval is exceeded due to additional processing, EBS Spectrum does not publish messages until the event is complete. The interval is reset once MDP messages are published. If there is no activity within the configured 1 minute interval EBS Spectrum resets the conflation interval to 1 minute and waits to publish the next market event. If there is no activity within the publication interval for an instrument, no message will be published.

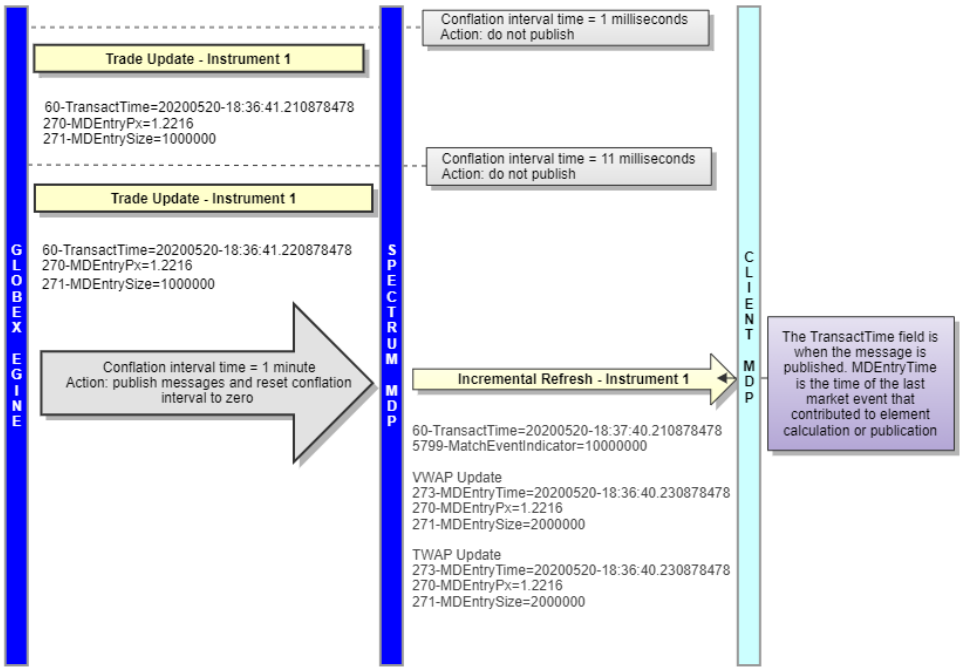
The following examples assume trade embargo (see in the following section) functionality is not included. Additionally, for the examples below, message performance is for illustrative purposes only. Actual production message performance on CME Globex will differ.

Conflation Market Data Examples

The example below outlines conflation concepts applicable to EBS Spectrum.

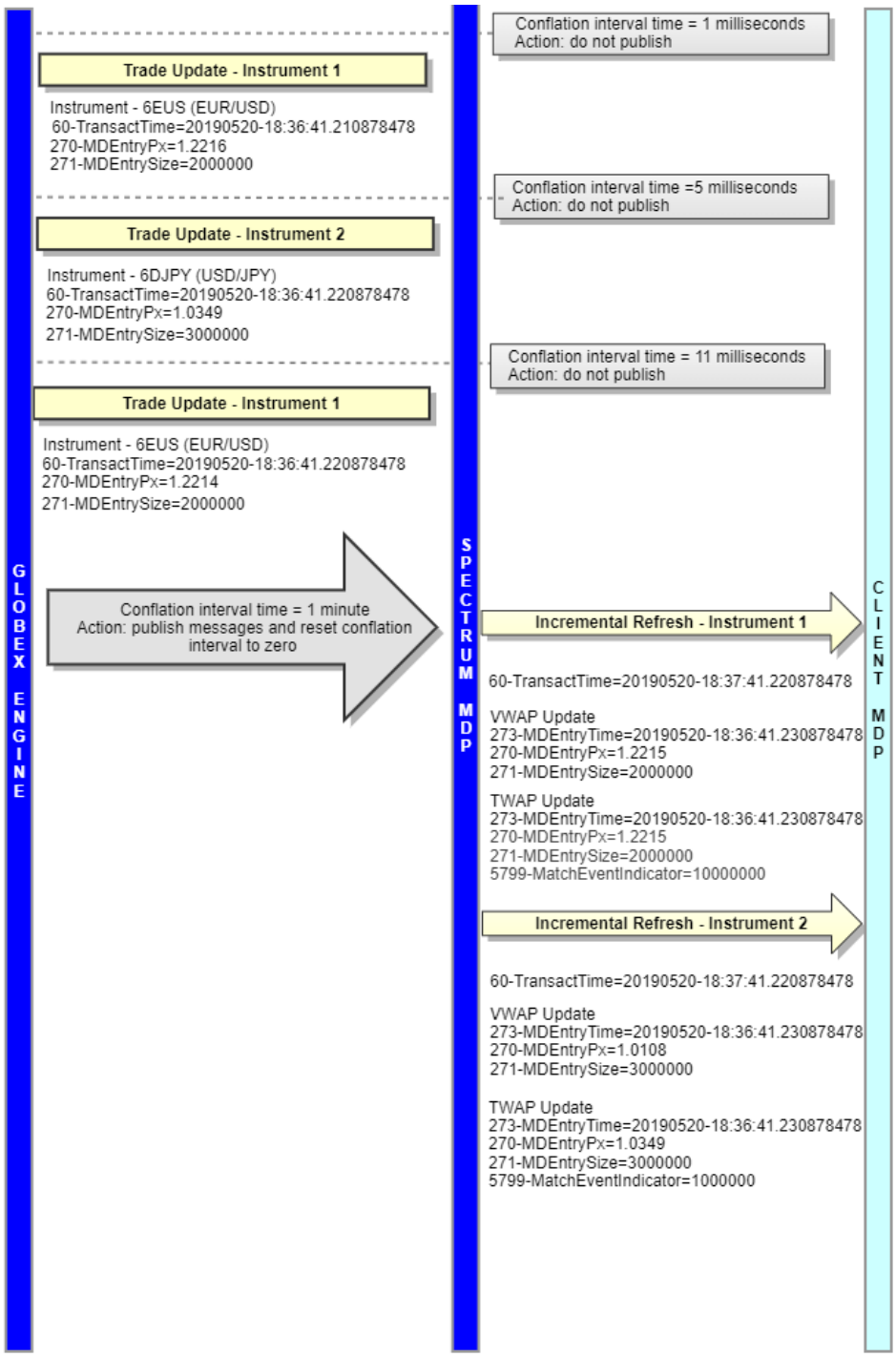
Example 1 - Multiple Updates for Single Instrument

The following example illustrates conflation for a single instrument with multiple updates set to a 1 minute conflation interval. The value sent to client systems is the combined Paid and Given values.



Example 2 - Multiple Updates for Multiple Instruments

The following example illustrates conflation for multiple instruments set to a 1 minute conflation interval.



Conflated TCP Market Data Group

CME Group will offer a CME MDP Conflated TCP market data group for EBS Market. The Conflated TCP Market Data Group schema will utilize appended template extension. With template extension, a template is extended as an appended extension, client systems can choose to continue processing the prior template version or process the new data with the new schema version.

Packet Structure

The encoded FIX transmission for the CME MDP Conflated TCP market data group is sent in a packet. For more information regarding packet structure see CME Globex EBS Market - Market Data PacketStructure.

Conflated MDP TCP - Initialization and Unbinding

Conflated MDP TCP uses the FIX protocol via Simple Binary Encoding (SBE) to establish and manage bi-directional sessions. A session is defined as a bi-directional stream of ordered messages between two parties.
Conflated MDP TCP does not support session layer re-transmit request functionality. For more information on this topic, see Conflated MDP TCP - Initialization and Unbinding.

Conflated MDP TCP - Request Messages

The following section outlines request message market data functionality provided by CME Globex. Once the client system has established a FIX session, client systems may send request messages. Subscription requests only apply to their respective channels.

TCP MDP Request Messages and Response Messages

Conflated MDP TCP payload messages are summarized as follows.

Message Name	FIX Tags	Template Name	From | To	Purpose
Market Data Request Message	35-MsgType=V	MarketDataRequest205	Client System to CME Globex	Request to recover current state via the Market Data Snapshot Recovery Message (35=W) and receive all subsequent message type updates for the subscribed instruments or all entitled products.
Request Acknowledgment	35-MsgType=V	RequestAck206	CME Globex to Client System	CME Globex acknowledgment to denote if a client system request is fully or partially acknowledged.
Request Reject	tag 35-MsgType=Y	RequestReject207	CME Globex to Client System	Message sent to client systems as a reply to any type of request that is fully rejected.

For more information, see CME Globex EBS Market - Market Data: Conflated MDP TCP - Request Messages).

> Security List Request Message (tag 35-MsgType=x) and Security Status Request Message (tag 35-MsgType=g) messages referenced are not applicable to EBS Spectrum market data.

EBS Spectrum Message Specification

The message specifications provide the message layout for each FIX message type supported by the applicable SBE schema. Clients can also review message specification details via the SBE schemas:

- EBS Derived MDP SBE Schema
- TCP Session Management

Binary Packet Headers

A standard technical header sent in a packet.

SBE Technical Header for TCP Conflated Connections

A standard technical header is included as preamble to all TCP conflated SBE messages sent by Customer to Exchange, as well as Exchange to Customer for TCP.

Name	Type	Description
encodingType	integral enumeration value '0xCAFE'	CME SBE version 1.0 little-endian - value 0xCAFE
MsgSeqNum	uInt32	TCP sequence number. A unique sequence number given to each TCP message sent. Each connection will have its own separate set of sequence numbers that will increment sequentially with each packet and reset on connection termination.

SendingTime	uInt64	UTC Time of message transmission by the MD Gateway. UTC Timestamps are sent in number of nanoseconds since Unix epoch.

CME Group MDP EBS Spectrum Message Specification

The CME Group MDP Core Message Specification provides the message layout for each FIX message type supported by the EBS Derived MDP SBE Schema.

Market Data Header

The following section outlines MDP headers for the Core CME Globex SBE Schema.

Message Header

Each message in the packet starts with a Binary message header that consists of the Binary Size and SBE header (Length, TemplateID, SchemaID and Version).

Name	Type	Description
MsgSize	uInt16	Length of entire message, including binary header in number of bytes
Simple Binary Encoding Header		
BlockLength	uInt16	Length of the root of the FIX message contained before repeating groups or variable/conditions fields
TemplateID	uInt16	Template ID used to encode the message
SchemaID	uInt16	ID of the system publishing the message
Version	uInt16	Schema version

Market Data Incremental Refresh (tag 35-MsgType=X)

The Market Data Incremental Refresh (tag 35-MsgType=X) is sent for incremental updates including TWAP and VWAP data.

Market Data Incremental Refresh - TWAP & VWAP

The Market Data Incremental Refresh message below is sent for TWAP and VWAP updates. This message maps to the MDIncrementalRefreshSpectrum303 template in the EBS Derived MDP SBE Schema.

Tag	Field Name	Type	Semantic Type	Valid Values	Description
60	TransactTime	uInt64	UTCTimestamp		Publication event time, sent in number of nanoseconds since Unix epoch.
5799	MatchEventIndicator	MatchEventIndicator	MultipleCharValue	Example: 10000000 – end of event	End of updates indicator. Bit 7 =1 when message is the last in the series of updates published for the publication interval. Bit 6 = 1 indicates if elements were resent during technical recovery and may be duplicates of previously published values
Repeating Group 1					
268	NoMDEntries	NumInGroup			Number of entries in Market Data message.
279	MDUpdateAction	MDUpdateActionNew	int	0=New	Market Data update action.
269	MDEntryType	SpectrumEntryType	char	9=VWAP t=TWAP	Market Data entry type, identifies the element.
2714	FinancialInstrumentFullName	LongName	String	E.g. FXSPOT. EURUSD	Financial instrument long name.
55	Symbol	Symbol	String		Unique instrument Symbol.
37513	InstrumentGUID	uInt64	int		External unique instrument ID.
48	SecurityID	Int32	int		SecurityID as referenced in MDP3 and Ilink3 protocols.
270	MDEntryPx	PRICENULL9	PriceNull9		Market Data entry price.

271	MDEntrySize	uInt64NULL	Qty		For TWAP messaging, this value represents the number of trades. For VWAP messaging, this value represents volume.
273	MDEntryTime	uInt64	UTCTimestamp		Time of the last market event that contributed to element calculation or publication.

Market Data Snapshot (tag 35-MsgType=W)

The Market Data Snapshot (tag 35-MsgType=W) is utilized for market recovery. This message is generated as a response to Market Data Request with SubscriptionReqType = 0 (Snapshot) or 1 (Snapshot and Updates). It is generated only for instruments that have had trade activity so that most recent updates to Spectrum values can be recovered.

Market Data Snapshot - Conflated TCP Recovery

The Market Data Snapshot message below is used by the CME MDP Conflated TCP market data group. This message maps to the MDSnapshotRefreshSpectrum305 template in the EBS Derived MDP SBE Schema for EBS Spectrum.

Tag	Field Name	Type	Semantic Type	Valid Values	Description
60	TransactTime	uInt64	UTCTimestamp		Publication event time, sent in number of nanoseconds since Unix epoch.
5799	MatchEventIndicator	MatchEventIndicator	MultipleCharValue	E.g. 10000000 – end of event	End of updates indicator. Bit 7 =1 when message is the last in the series of updates published for the publication interval. Bit 6 = 1 indicates if elements were resent during technical recovery and may be duplicates of previously published values.
2714	FinancialInstrumentFullName	LongName	String	E.g. FXSPOT. EURUSD	Financial instrument long name.
55	Symbol	Symbol	String		Unique instrument Symbol.
37513	InstrumentGUID	uInt64	int		External unique instrument ID.
48	SecurityID	Int32	int		SecurityID as referenced in MDP3 and Ilink3 protocols.
Repeating Group 1					
268	NoMDEntries	NumInGroup			Number of entries in Market Data message.
269	MDEntryType	SpectrumEntryType	char	9=VWAP t=TWAP	Market Data entry type, identifies the element.
270	MDEntryPx	PRICE9	PriceNull9		Market Data entry price.
271	MDEntrySize	uInt64NULL	Qty		For TWAP messaging, this value represents the number of trades. For VWAP messaging, this value represents volume.
273	MDEntryTime	uInt64	UTCTimestamp		Time of the last market event that contributed to element calculation or publication.

Market Data Heartbeat (tag 35-MsgType=0)

The Heartbeat (tag 35-MsgType=0) message is sent on UDP Real-Time Feed and Recovery Feeds in periods of no activity at a configurable time interval and consists of only a standard technical header and a FIX message header. Currently, the configurable time interval is 30 seconds. This message maps to the AdminHeartbeat302 template in the EBS Derived MDP SBE Schema.

Tag	FIX Name	FIX Type	Valid Values for BrokerTec	Description
35	MsgType	Int	0=Heartbeat	FIX Message Type

CME Group MDP TCP Session Management Specification

The CME Group MDP Session Message Specification provides the message layout for each FIX message type supported by the CME MDP Conflated TCP market data group in the TCP Session Management SBE Schema. Consult the MDP Dissemination section for more information.

Market Data Header

The following section outlines MDP headers for the Global TCP Recovery for UDP schema.

SBE Technical Header - Customer to Exchange, Exchange to Customer

For the TCP MDP 3.0 stream, a standard technical header is included as a preamble to all SBE messages. The SBE technical header is sent by the customer to the exchange and the exchange to the customer.

Name	Type	Description
encodingType	integral enumeration value '0xCAFE'	CME SBE version 1.0 little-endian - value 0xCAFE.
MsgSeqNum	uInt32	Template ID used to encode the message.
SendingTime	uInt64	ID of the system publishing the message.

SBE Message Header - Customer to Exchange, Exchange to Customer

Each FIX SBE message will start with a Binary message header that consists of the Binary Size and SBE header (Length, TemplateID, SchemaID, and Version). The SBE message header is sent by the customer to the exchange and the exchange to the customer.

Name	Type	Description
MsgSize	uInt16	Length of entire message, including binary header in number of bytes
Simple Binary Encoding Header		
BlockLength	uInt16	Length of root of the message
TemplateID	uInt16	Template ID used to encode the message
SchemaID	uInt16	ID of the system publishing the message
Version	uInt16	Schema version

MDP Session Management Messages - Client to Exchange

The following section outlines client messages sent to CME Globex for a CME MDP Conflated TCP market data group.

Negotiate Message

This message maps to the Negotiate200 template in the TCP Session Management SBE Schema.

Tag	FIX Name	Type	Semantic Type	Valid Values for BrokerTec	Description
39003	HMACVersion	HMACVersion	String	CME-1-SHA-256	Constant value representing CME HMAC version
39005	HMACSignature	String32Req	String		Contains the HMAC signature.
39004	AccessKeyID	String20Req	String		Contains the AccessKeyID assigned to this session on this port.
39001	UUID	uInt64	int		Session Identifier defined as type long (uInt64); recommended to use timestamp as number of microseconds since epoch (Jan 1, 1970)
39002	RequestTimestamp	uInt64	UTCTimestamp		Time of request (UTC) recommended to use timestamp as number of nanoseconds since epoch (Jan 1, 1970)
39006	Session	String5	String		Session ID
39007	Firm	String5	String		Firm ID

Market Data Request Message (tag 35-MsgType=V)

This message maps to the MarketDataRequest205 template in the TCP Session Management SBE Schema.

Tag	FIX Name	Type	Semantic Type	Valid Values for BrokerTec	Description
262	MDReqID	uInt32	int		Unique identifier for Market Data Request. Must be unique per session so it can be referenced in Request Ack or Request Reject responses from the exchange.

263	SubscriptionReqType	SubscriptionReqType	int	0=Snapshot 1=Snapshot and updates 2=Disable previous subscription	Subscription Request Type indicates to the type of response expected.
Repeating Group 1					
37022	NoSecurityGroups	NuminGroup			Number of SecurityGroups specified in subscription request. Should be equal to 0 when subscription is requested for all groups on the segment or individual Security IDs are listed in the criteria for subscription.
1151	Security Group	Security Group	String		Security Group
Repeating Group 2					
146	NoRelatedSym	NuminGroup			Number of instruments requested. When NoSecurityGroups 0 specified in the request, the NoRelatedSym should be equal 0.
48	SecurityID	Int32	int		Security ID

Subscriber Heartbeat (tag 35-MsgType=0)

This message maps to the SubscriberHeartbeat210 template in the TCP Session Management SBE Schema. The heartbeat time Interval is configured to 30 seconds. Client systems are disconnected if the SubscriberHeartbeat is not received for two intervals.

Tag	FIX Name	Type	Semantic Type	Valid Values for BrokerTec	Description

MDP Session Management Messages - Exchange to Client

The following section outlines CME Globex messages sent to client systems for a CME MDP Conflated TCP market data group.

Negotiation Reject

This message maps to the NegotiationReject201 template in the TCP Session Management SBE Schema.

Tag	FIX Name	Type	Semantic Type	Valid Values for BrokerTec	Description
39011	Reason	String48	String		Reject reason details
39001	UUID	uInt64	int		Matches Negotiate.UUID
39002	RequestTimestamp	uInt64	UTCTimestamp		Matches Negotiate.RequestTimestamp
39012	ErrorCodes	ErrorCodes	int	0=Unknown Security 1=Unknown or Invalid Message 2=Unsupported Scope 3=Other	Error code for reject reason

Negotiation Response

This message maps to the NegotiationResponse202 template in the TCP Session Management SBE Schema.

Tag	FIX Name	Type	Semantic Type	Valid Values for BrokerTec	Description
39001	UUID	uInt64	int		Matches Negotiate.UUID.
39002	RequestTimestamp	uInt64	UTCTimestamp		Matches Negotiate.RequestTimestamp.
39022	SecretKeySecureIDExpiration	uInt16NULL	int		This indicates in how many days the HMAC secret key will expire.

Request Acknowledgement (tag 35-MsgType=V)

This message maps to the RequestAck206 template in the TCP Session Management SBE Schema.

Tag	FIX Name	Type	Semantic Type	Valid Values for BrokerTec	Description

262	MDReqID	uInt32	int		Unique identifier for Market Data Request.
263	SubscriptionReqType	SubscriptionReqType	int	0=Snapshot 1=Snapshot and updates 2=Disable previous subscription	Subscription ReqType
37720	MDReqIDStatus	RequestIDStatus	int	0=Requested subscription scope is fully acknowledged 1=Requested subscription scope is partially acknowledged	Status of the request acknowledgement.
Repeating Group 1					
37022	NoSecurityGroups	NuminGroup			Number of SecurityGroups acknowledged.
1151	SecurityGroup	SecurityGroup	String		Security Group
Repeating Group 2					
146	NoRelatedSym	NuminGroup			Number of securities acknowledged.
48	SecurityID	Int32	int		Security ID

Request Reject (tag 35-MsgType=Y)

This message maps to the RequestReject207 template in the TCP Session Management SBE Schema.

Tag	FIX Name	Type	Semantic Type	Valid Values for BrokerTec	Description
262	MDReqID	uInt32NULL	int		Unique identifier for Market Data Request.
281	MDReqRejReason	MDReqRejReason	int	0=Unknown Security 1=Unknown or Invalid Message 2=Unsupported Scope 3=Other	Market Data Request Reject reason code.
58	Text	String100	String		Reject reason details.

MDP Session Management Message - Client to Exchange and Exchange to Client

Terminate

This message maps to the Terminate203 template in the TCP Session Management SBE Schema. Both client systems and the exchange use this message.

Tag	FIX Name	Type	Semantic Type	Valid Values for BrokerTec	Description
39011	Reason	String48	String		Reject reason details.
39001	UUID	uInt64	int		Matches Negotiate.UUID used to establish the connection.
39002	RequestTimestamp	uInt64	UTCTimestamp		Time of request; recommended to use timestamp as number of nanoseconds since Unix epoch (Jan 1, 1970).
39012	ErrorCodes	ErrorCodes	int	0=Unknown Security 1=Unknown or Invalid Message 2=Unsupported Scope 3=Other	Error code for reject reason.