CME STP FIXML - Message Flows for BrokerTec Trades

This page describes the sequence and flow of information (showing key FIXML fields) between the User and the CME STP.

- Subscription
- Query
- Spreads
- Collateral Processing

> (i) CME STP often sends multiple Trade Capture Report messages per subscription or query response. These examples provide only Trade Capture Report messages from the API.
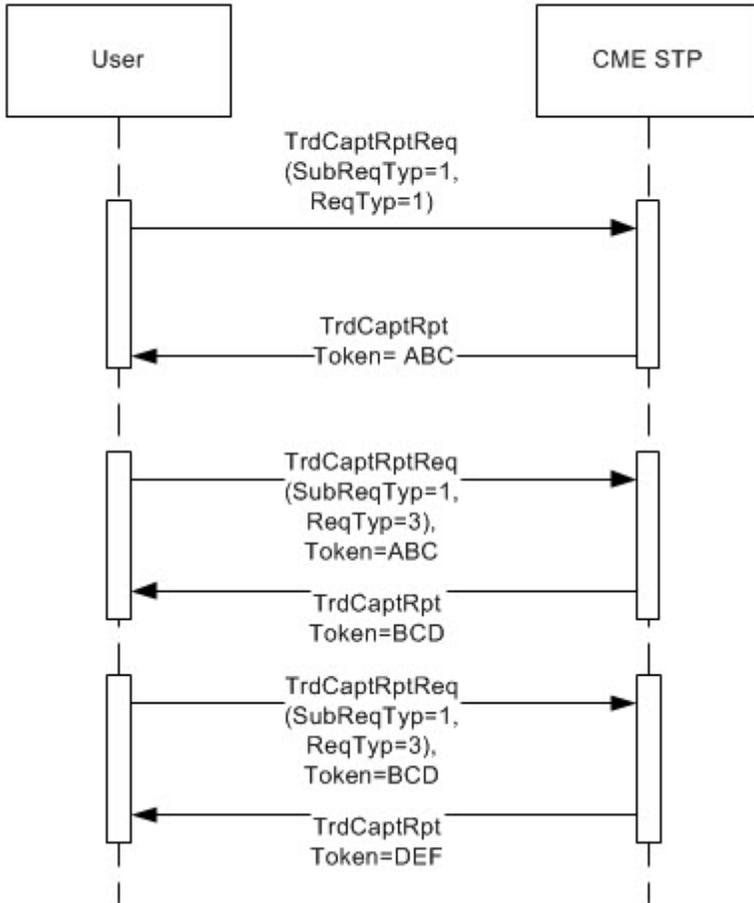>
> For a full list of FIXML fields that are returned by the API, please see the FIXML Message Specification. See Message Samples for corresponding message layouts examples.

Subscription

This flow shows the User requesting a subscription to CME STP and the API response.

- After sending a subscription request to the API with `@ReqTyp` = 1, the User receives a token along with zero or more Trade Capture Report messages inside a FIXML batch, e.g. `/FIXML/Batch/TrdCaptRpt`
- The User must return the token with the next Trade Capture Report Request to continue to receive trade information without duplication or loss, along with `@ReqTyp` = 3.
  - If the token is not sent back, the API considers this an error, and responds with the Trade Capture Report Request Ack message.
  - A new token is issued for each subscription or query request.
- Upon receipt of the previous response, submit a new subscription response no sooner than 3 seconds later.
- If no new data is available since the user's last query, the API will send the user an empty batch with a token.

Subscription

User → **CME STP**

TrdCaptRptReq
(SubReqTyp=1,
ReqTyp=1)

TrdCaptRpt
Token= ABC

TrdCaptRptReq
(SubReqTyp=1,
ReqTyp=3),
Token=ABC

TrdCaptRpt
Token=BCD

TrdCaptRptReq
(SubReqTyp=1,
ReqTyp=3),
Token=BCD

TrdCaptRpt
Token=DEF

Query

This flow shows the user querying CME STP and the API response.

After sending a query to the API with `@ReqTyp` = 1, the user receives zero or more Trade Capture Report messages inside a FIXML batch, e.g. `/FIXML/Batch/TrdCaptRpt`, as follows:

- If no trades match the query parameters, the API sends an empty FIXML batch and no token.
- If all trades that match the query parameters can be sent inside one FIXML batch, the API will do so, and will not send a token.
- If more trades match the query parameters than can be sent inside one FIXML batch, the API sends some of the messages inside a FIXML batch, and includes a token for continuing the query.

In the latter case, to continue a query, the user must return the token with the next Trade Capture Report Request, along with `@ReqTyp` = 3. If the token is not sent back, the API considers this an error, and responds with the Trade Capture Report Request Ack Message. The User must send the last received token, as this enables the API to send the query results without duplication or loss. A follow up query may be performed immediately, with no need to wait 3 seconds. This process can continue, with the API sending a token and the user returning the token on the next Trade Capture Report Request, along with `@ReqTyp` = 3, until no more trades are available that match the query parameters. When the API sends the last batch of trades, it will not send a token. The absence of a token indicates that the results are complete, and the user should not continue sending Trade Capture Report Request messages for this query.

Query
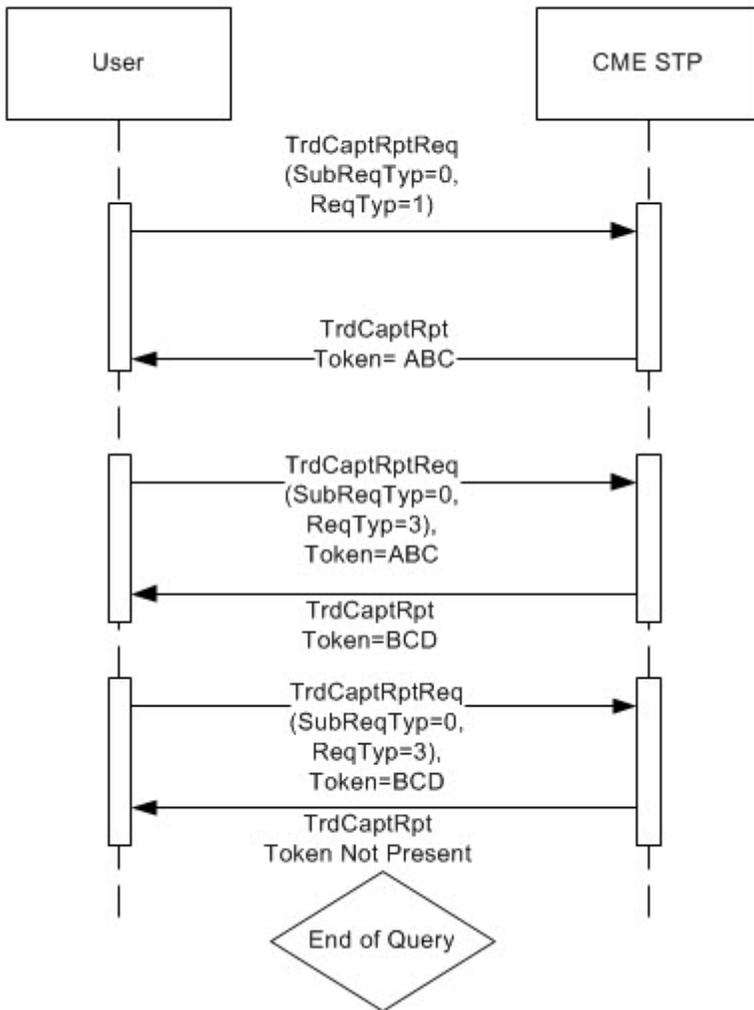
Spreads

The following 2 flows show the different types of spread level information that a user can request and consume.

The first flow shows the user requesting Spread level trades (`@MLegRptTyp` = 3). The API then responds with Outrights (`@MLegRptTyp` = 1) as well as Spread level messages (`@MLegRptTyp` = 3). `@TrdSubTyp` indicates whether the message is a Differential (7) or Spread (8). `@DiffPx` carries the Spread or Differential price (e.g. 0.01). This trade has multiple legs, each identified in by the `/FIXML/Batch/TrdCaptRpt/TrdLeg` component. The full list of TrdLeg FIXML fields returned by the API, is available in the FIXML Message Specification. The field `@StrategyLinkID` can be used to link legs of a strategy with the multi-leg spread messages. Although in this example, legs are not sent, they can be sent in the case of allocations of spreads.

Spread level
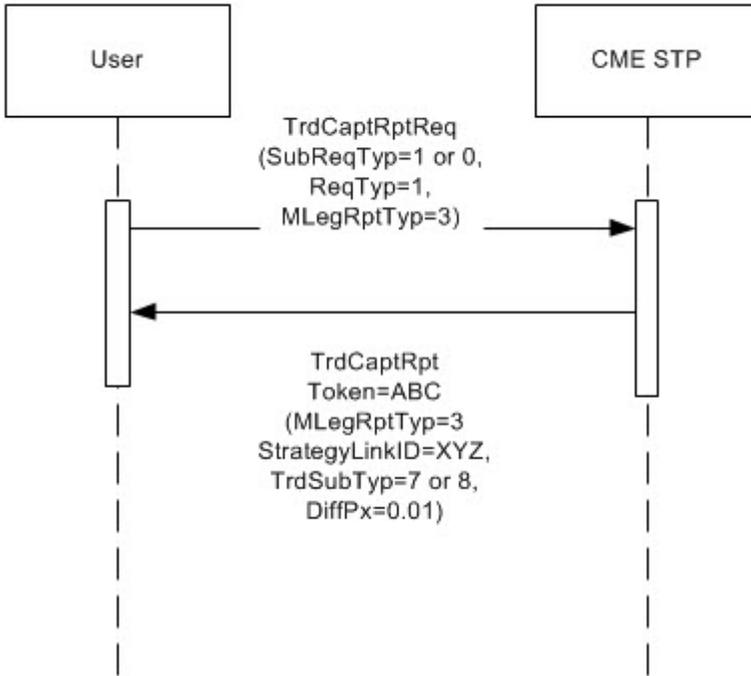
The next flow showS the user requesting Leg level trades (@MLegRptTyp = 2). The API then responds with Outrights (@MLegRptTyp = 1) as well as Leg level messages (@MLegRptTyp = 2). The trades do not have multiple legs, therefore /FIXML/Batch/TrdCaptRpt/TrdLeg is not present. The field @StrategyLinkID can be used to link legs of a strategy together.

Leg level
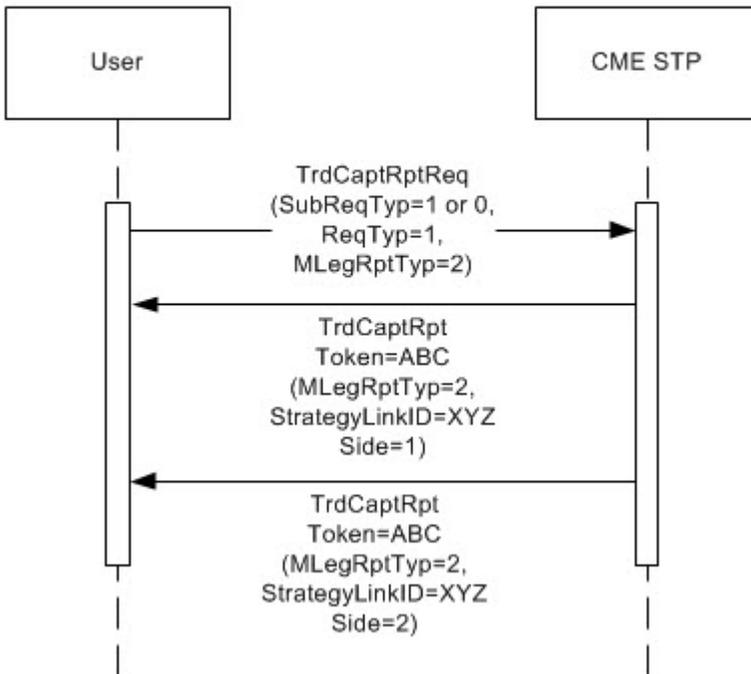
Collateral Processing

A General Collateral Trade is
Completed and a Trade Capture
Report and CollateralReport (shell,
indicating Collateral) are received

CollateralReport/TrdID2 =
TradeCaptureReport/TrdID2

	Seller	GC Allocator	STP

Allocation

Seller submits
Collateral
Allocation using
GC Allocation API

CollateralReport is
sent to STP
(TrdID2=TrdID2)

Substitution

US Markets only

Seller submits
Collateral
Substitution using
GC Allocation API

CollateralReport is
sent to STP
(TrdID2=TrdID2)