CME Group

Client System Impact

Drop Copy Service for iLink®

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Futures trading is not suitable for all investors, and involves the risk of loss. Futures are a leveraged investment, and because only a percentage of a contract's value is required to trade, it is possible to lose more than the amount of money deposited for a futures position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles. And only a portion of those funds should be devoted to any one trade because they cannot expect to profit on every trade.

All references to options refer to options on futures.

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All matters pertaining to rules and specifications herein are made subject to and are superseded by official CME, CBOT, and NYMEX rules. Current rules should be consulted in all cases concerning contract specifications.

1. Introduction to Drop Copy 4

1.1 Drop Copy Terminology 4
1.2 Configuration and Fees 5
1.3 Bandwidth Impact 7

2. Coordination with Global Account Management (GAM) 8
3. Drop Copy Session Management 9

3.1 Administrative Messaging 9
3.2 Inbound Messaging (CME Globex to Client System) 9
3.2.1 Application Messages 9
3.2.2 Source Session Management 10
3.2.3 Application Message Sequencing 11
3.2.4 Processing Tag 369-LastMsgSeqNumProcessed 14
3.3 Resend Request 14
3.3.1 FIX Resend 14
3.3.2 Application Resend Process 15
3.3.3 Application Message Request (tag 35-MsgType=BW) 15
3.3.4 Application Message Request Acknowledgment (tag 35-MsgType=BX) 19
3.3.5 Application Message Report (tag 35-MsgType=BY) 22
3.4 Fault Tolerance 25
3.4.1 Processing Tag 369-LastMsgSeqNumProcessed 25
3.5 Suggested Startup Procedure 25

4. Testing and Certification 26

1. Introduction to Drop Copy

The Drop Copy service allows customers to receive real-time copies of CME Globex Execution Report and Acknowledgement messages as they are sent over iLink order entry system sessions. Drop Copy aggregates iLink messages, enabling customers to aggregate positions and monitor orders for sessions guaranteed by one or more clearing firms upon approval of the clearing firms.

1.1 Drop Copy Terminology

This section provides the terms and definitions used to describe the Drop Copy service.

Administration messages – used to establish and maintain a session.

Application messages – business messages sent over a session, e.g., Execution Report.

Drop Copy Group – customer-defined grouping of iLink Source sessions for which drop copy data will be delivered (e.g., all the iLink sessions for a given business unit, trading customer or clearing firm).

Source session – client iLink session from which the Drop Copy Application messages originate. A given iLink session can be a source session for more than one Drop Copy Group.

Target session – exchange defined fix session over which drop copy data is delivered. A single Drop Copy Group may have multiple Target sessions based on the configuration characteristics of the Source sessions which feed the Drop Copy Group.

Gap Fill – notification of missing messages sent to client system with the Sequence Reset (tag 35-MsgType=2, tag 123GapFillFlag=Y) message. For Drop Copy, this message alerts the client system to initiate the Application Resend.

Resend – the process by which, in the event of missed messages, the client system requests and Drop Copy resends the missed messages. Drop Copy supports two resend processes:

- **FIX resend** – standard FIX resend process using the Resend Request (tag 35-MsgType=2) message.
- **Application resend** – new Drop Copy resend process using the Application Message Request (tag 35-MsgType=BW), Application Message Request Acknowledgment (tag 35-MsgType=BX), and Application Message Report (tag 35-MsgType=BY) messages.

Note: In the Application Resend process, the message sequence range is sent in the Application Message Request Acknowledgment (tag 35-MsgType=BW) in tags 1182-ApplBeginSeqNo and 1183-ApplEndSeqNo.

1.2 Configuration and Fees

Configuration of the Drop Copy service should be requested through your Global Account Manager. Once the completed Schedule 12 is submitted all configuration requests for Drop Copy must be submitted by an authorized contact for the Drop Copy Group. The configuration request should include which iLink Source sessions should be configured to feed the Drop Copy Group as well as the message types the customer wishes to receive for the Drop Copy Group. The available messages types can be categorized as follows:

- **Execution Reports** – These messages include all fills and any trade bust messages generated by the Source session(s). These messages can be used to determine the trading customer's filled position.
- **Acknowledgements** – These messages include all confirmation and elimination messages generated by the Source session(s). These messages can be used to determine the trading customer's open order position.

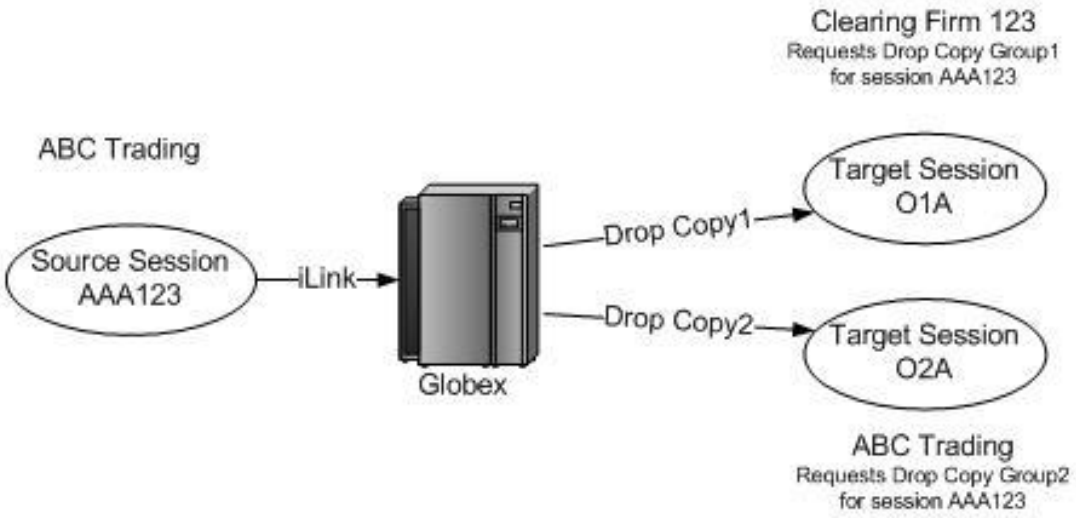
Beginning October 1, 2009, a monthly fee for the Drop Copy service will be charged as a separate line item on regular monthly CME Globex connection billing. This fee will be assessed on a per Drop Copy Group basis with the fee waived for the customer's first Drop Copy Group.

Note: Please refer to Exhibit A of the Customer Connection Agreement for the current fee schedule applicable to this service.

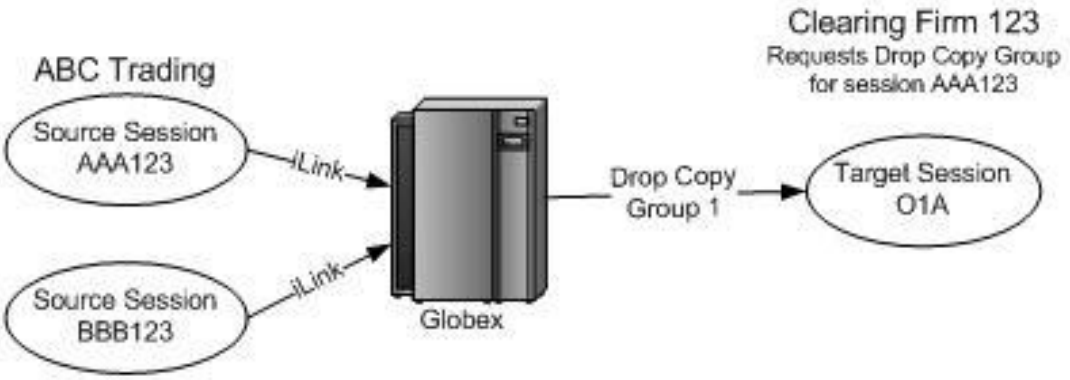
Note: Due to load balancing and optimization of the iLink order entry infrastructure, the aggregation of Source session data under a single Drop Copy group is subject to constraints that may require a customer to maintain multiple Drop Copy Target sessions. Customers must be able to accommodate this contingency.

The following examples illustrate how the configuration of different Drop Copy Groups may result in one or more Target sessions given the specific Source sessions configured to feed in the Drop Copy Group.

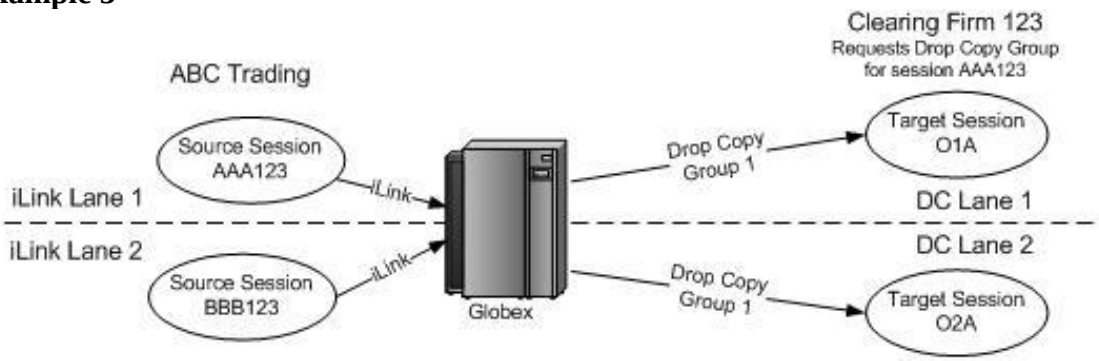
Example 1



Example 2



Example 3



1.3 Bandwidth Impact

Since Drop Copy Target sessions transmit Acknowledgment and Execution messages only (no market data), bandwidth impact should be minimal, but is dependent upon the number of Source sessions bundled to the Drop Copy Group. Drop Copy uses the same packet size as an outbound iLink message, i.e., thirty Source sessions will use the equivalent bandwidth of thirty iLink Source session Execution Report and reject messages.

2. Coordination with Global Account Management (GAM)

The Drop Copy service is available for iLink messages on orders submitted to the CME Globex platform via iLink or CME EOS Trader. Customers may connect to Drop Copy via an existing network connection or establish a new connection dedicated to the Drop Copy service.

Note: The Drop Copy service does not support orders originating from the Galax-C trading application.

To initiate Drop Copy functionality, customers must submit the Schedule 12-*Drop Copy Service* form specifying the name of the Drop Copy Group, how billing for Drop Copy is to be administered, and individuals authorized by the Clearing Firm to administer changes to the Source sessions configured for the Drop Copy group. Once the approved request form is submitted, the Global Account Manager initiates scheduling and configuration. The customer receives standard connection information for the Drop Copy Target session(s) including:

- SenderCompID – seven digit alphanumeric value consisting of:
  - 6-character Session ID
  - 1-character Fault Tolerance Indicator = 'N' (no fault tolerance)

Note: The SenderCompID should not be changed by client systems using Drop Copy functionality (i.e. no changing firms for route-through). If you do not send the correct SenderCompID, the message will be ignored.

- IP primary address
- IP backup address
- Port
- Password

The Schedule 12-*Drop Copy Service* form is available at: www.cmegroup.com/connectionagreement.

For questions regarding iLink or EOS Trader as related to Drop Copy, please contact:

Global Account Management
United States 312-634-8700
Europe + 44 20 7 796 7100
Asia +852 3101 7696

3. Drop Copy Session Management

Drop Copy provides an application-level session for customers to receive real-time iLink messages. Drop Copy does not support order entry; order entry messages submitted on the Drop Copy session will be rejected with a Session Level Reject (tag 35-MsgType=3) message.

3.1 Administrative Messaging

Drop Copy behavior is similar to that of a standard iLink session for the following administration messages:

- Logon (tag 35-MsgType = A)
- Heartbeat (tag 35-MsgType = 0)
- Test Request (tag 35-MsgType = 1)
- Resend Request (tag 35-MsgType = 2)
- Session Level Reject (tag 35-MsgType = 3)
- Sequence Reset (tag 35-MsgType = 4)
- Logout (tag 35-MsgType = 5)

For complete iLink session details refer to the Session Management section in Core Functionality section of the iLink SDK.

Note: tag 50-SenderSubID, and tag 142-SenderLocationID are required for all outbound administrative messages submitted by the client trading system. CME recommends a value of 'DropCopy' for tag 142-SenderLocationID.

3.2 Inbound Messaging (CME Globex to Client System)

3.2.1 Application Messages

Authorized persons can specify which message types the Drop Copy consumer will receive on the Target Drop Copy session(s). Available messages are:

- Execution Reports (tag 35-MsgType=8) including:
    - Modification Confirmation (tag 39-OrdStatus= 5 [replaced])
    - Fill Notice (tag 39-OrdStatus=1 [partial fill], 2 [filled])
    - Cancellation/Elimination Confirmation Message (tag 39-OrdStatus=4 [cancelled], C [expired])
    - Trade Cancellation Notice (tag 39-OrdStatus=H [cancelled])
    - Acknowledgment of Order Creation (tag 39-OrdStatus=0 [new])

Tag 797-CopyMsgInd=Y will be included in all application messages that are sent to the destination Drop Copy session.

3.2.2 Source Session Management

3.2.2.1 Parties Block

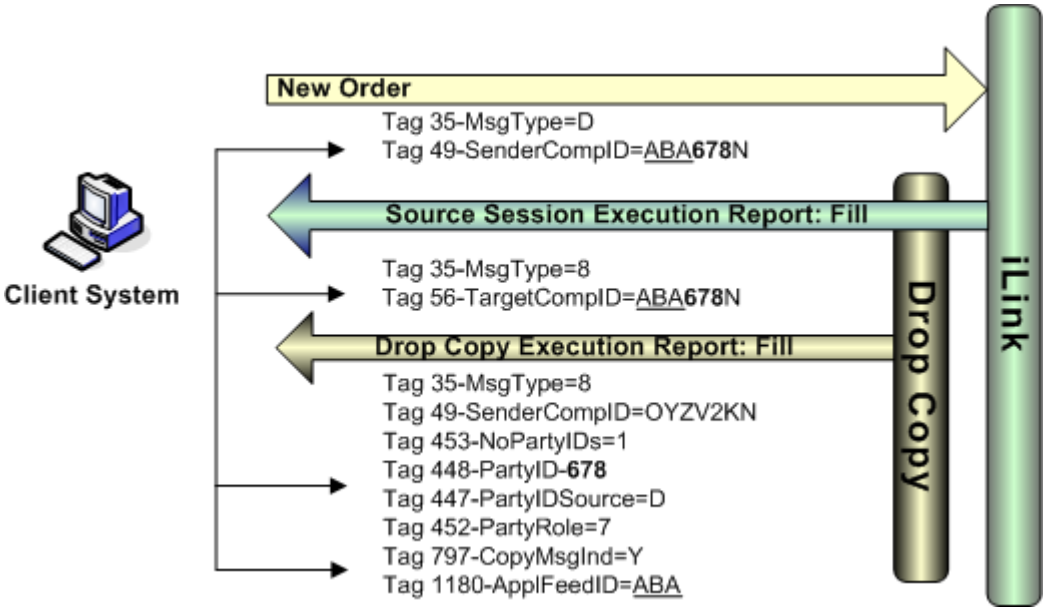
All Drop Copy application messages will support four additional tags (the Parties block) that identify Source session message information. The Parties block does not appear on any Drop Copy administrative messages.

→ designates a repeating group tag

Tag	FIX Name	Req'd	Valid Values	Description
453	NoPartyIDs	C	≥1	Number of PartyID groups. The value will be ≥1 and represents the number of repeating groups to follow. The tags in the repeating group will contain unique combinations of PartyID, PartyIDSource, and PartyRole.
→448	PartyID	C	Up to 32 alphanumeric characters	Firm ID (second three bytes) from tag 56-TargetCompID of the original Source session message (e.g. ABA678N). Required if PartyIDSource is specified.
→447	PartyIDSource	C	D=prop code	Used to identify class source of PartyID value. Required if PartyID is specified.
→452	PartyRole	C	7–Entering Firm 55–Session ID 44–Order Entry Operator ID	Identifies the type of PartyID (e.g. Executing Broker).

C = Conditionally required

The following diagram illustrates how the parties block tags will be populated from the Source session application message.



3.2.3 Application Message Sequencing

Five new tags are added to the Header block of all Drop Copy Application messages to allow client systems to manage Source session identification application message sequencing and support two levels of resend processing. These tags will **not** appear on Drop Copy Administrative messages.

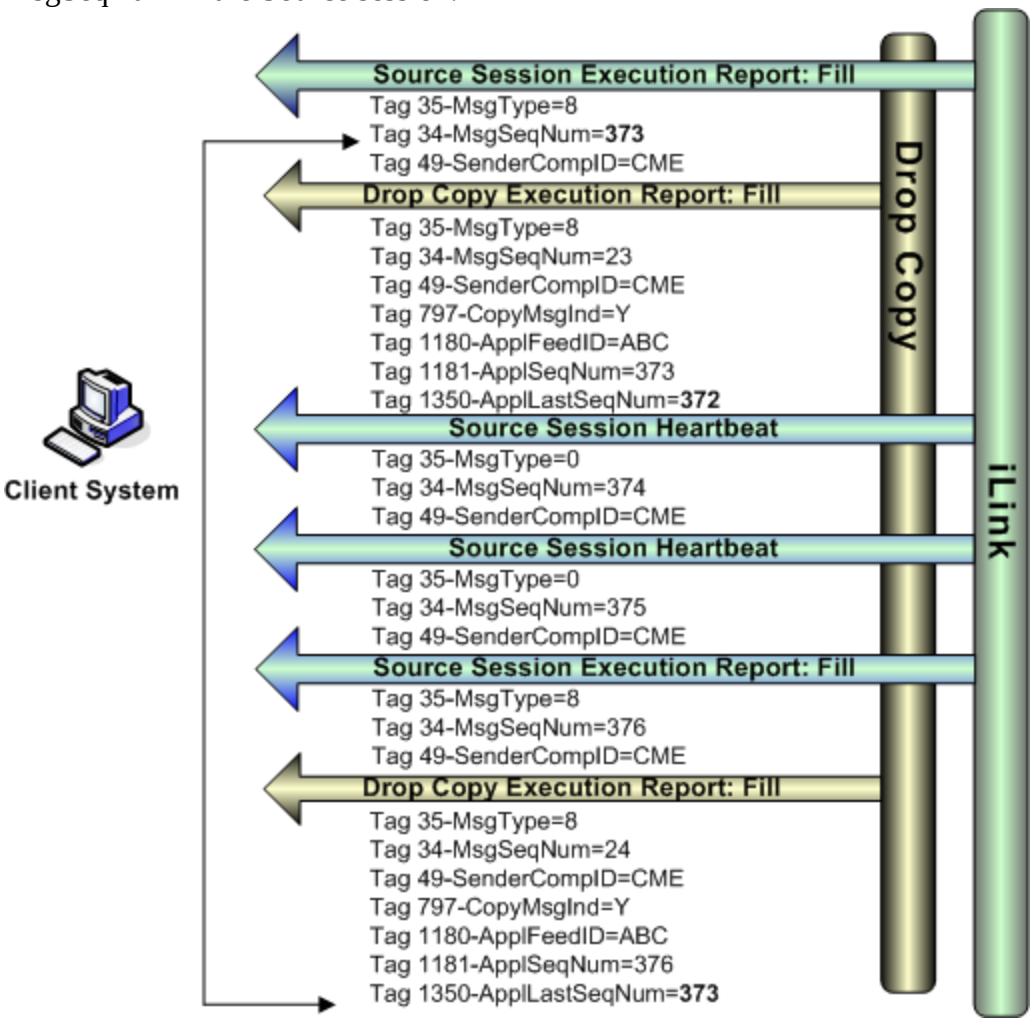
Tag	FIX Name	Req'd	Description
Standard Header			
57	TargetSubID	Y*	Contents of tag 50 from the Source session message.
797	CopyMsgInd	C	Indicates that the message is a copy of a message sent to a monitored Source Session. **Note:** the value will be set to Y whenever this tag is present.
1180	ApplFeedID	N	Contains the Session ID (first three characters) of tag 49-SenderCompID from the Source session message sent from the client system to CME Globex. This tag can be used in place of tag 49 on the iLink Source session when uniqueness is required. This tag will always be included on Application messages.

Tag	FIX Name	Req'd	Description
Standard Header			
1181	ApplSeqNum	N	This is the value in tag 34-MsgSeqNum from the Source session message. The values in the ApplSeqNum and ApplFeedID tags comprise a unique identifier for the Drop Copy message.
1350	ApplLastSeqNum	N	This is the tag 34-MsgSeqNum value from the previous Source session message sent by Drop Copy. **Note:** the difference between the value in this tag and that in tag 1181-ApplSeqNum indicates the number of messages sent on the Source session since the last Drop Copy application message. **Note:** this tag is not sent in the first message returned in response to an Application resend Request.
1352	ApplResendFlag	C	Indicates that the message was sent in response to an Application Message Request (tag 35-MsgType=BW) message. **Note:** the value will be set to Y whenever this tag is present.

Y* = Only sent for FXMarketSpace, N = Not required, C = Conditionally required

3.2.3.1 Example: tag 1181-ApplSeqNum and tag 1350-ApplLastSeqNum

The following diagram illustrates how these tags will be populated from the Source session to the Drop Copy session. Please note the relationship between tag 1181-ApplSeqNum and tag 1350-ApplLastSeqNum in the Drop Copy session and tag 34-MsgSeqNum in the Source session.



WARNING: To maintain message sequence integrity on the Drop Copy Target session, CME Group **strongly recommends** that the client system **not reset message sequence** numbers on Source sessions during the week. Message recovery will not be possible for messages sent prior to a mid-week sequence reset.

3.2.4 Processing Tag 369-LastMsgSeqNumProcessed

The value of tag 369-LastMsgSeqNumProcessed will reflect the last message sequence number processed by the Drop Copy Target session only on Administrative messages and Application Message Request Acknowledgment (tag 35-MsgType = BX).

On forwarded Application (iLink Source session) messages, the value of tag 369-LastMsgSeqNumProcessed will be unchanged from that of the iLink Source session.

Client systems that rely on the value of tag 369-LastMsgSeqNumProcessed will need to differentiate forwarded messages from Drop Copy Target session messages.

3.3 Resend Request

This section describes resend request processing for a Drop Copy Target session. To ensure complete message recovery capability on Drop Copy, two resend methods have been implemented. In most scenarios, the standard FIX resend should be sufficient for message recovery; however, in certain scenarios message recovery may require the use of the Application Resend process described in Section 3.3.2.

IMPORTANT: CME requires all customers to log in and receive Drop Copy messages beginning Sunday or Monday. CME will cache the most recent 10,000 messages (this number is configurable and may change in the future); older messages must be retrieved using the Application Resend.

3.3.1 FIX Resend

A resend request is performed on a Drop Copy Target session with the standard FIX Resend Request (tag 35-MsgType=2) message in the event of missed messages during normal processing. The maximum limit of messages allowed per resend request is 2500. A Resend Request exceeding the 2500 message limit will receive a Session Level Reject (tag 35-MsgType=3) message with tag 58-Text containing the error text 'Request exceeds limit.' In this scenario, multiple Resend Request messages must be submitted by the client spanning the desired sequence range.

The Drop Copy cache limits the number of messages available for FIX session resend. To mitigate this limitation, the Application Message Request message allows for recovery of any message for any iLink Source session. To support this functionality, the client application should support management of the sequence number state for both the Drop Copy Target session and each iLink Source session. If a message is not in the Drop Copy cache, a FIX sequence reset (gap fill) message is issued for that message. In that case, the gap in the iLink Source session sequence must be handled via the application resend process.

3.3.2 Application Resend Process

If the sequence range requested by a FIX Resend Request (tag 35-MsgType=2) message exceeds the Drop Copy local cache, the Drop Copy gateway will send the Sequence Reset (tag 35-MsgType=4) message with tag 123-GapFillFlag set to 'Y'. This message indicates that, to perform a complete message recovery, the client system must submit the Application Message Request (tag 35-MsgType=BW) message.

Notes:

- During the Application Resend process, all application messages for Source sessions involved in an Application Resend are queued until the resend is complete.
- To identify the last Application sequence number sent, the client system must request the last Application sequence number at startup.
- The Application Resend process is constrained to 2500 messages per resend for a single session or across multiple sessions. For an Application Message Request (tag 35-MsgType=BW) exceeding 2500 messages, tag 1183-ApplEndSeqNo must be set to 0. If not, an Application Message Request Acknowledgment (tag 35-MsgType=BX) will be returned stating that the request could not be filled.
- After the Application Message Report (tag 35-MsgType=BY) for a Source session has been received, another Application Message Request (tag 35-MsgType=BW) can be sent. An Application Message Request will be rejected if sent during processing of a prior Application Message Request.
- Tag 43-PossDupFlag and tag 122-OrigSendingTime will not appear in application messages during an Application Resend.
- Tag 1352-ApplResendFlag=Y will be included in all application messages that are sent to the destination Drop Copy Target session during an Application Resend.
- Administrative messages will not be resent. If all of the Source session messages indicated in the Application Message Request (tag 35-MsgType=BW) are administrative, such as heartbeats, then a successful Application Message Request Acknowledgment (tag 35-MsgType=BX) will be sent. It will be followed by an Application Message Report (tag 35-MsgType=BY) with tag 1357-RefApplLastSeqNum=0.

3.3.3 Application Message Request (tag 35-MsgType=BW)

This message is used to request:

- retransmission of Application messages
- the last published Application Sequence Number for 1-n Source sessions
- a valid set of Application Feed IDs for current Source sessions

→ designates a repeating group tag

Tag	FIX Name	Req'd	Description
	StandardHeader	Y	MsgType = BW

Tag	FIX Name	Req'd	Description
1346	ApplReqID	Y	Unique identifier for request
1347	ApplReqType	Y	Type of application resend request being made: 0 – retransmission of application messages 2 – request for the ApplLastSeqNum published. 3 – request valid set of ApplFeedIDs
1351	NoApplIDs	C	Specifies number of application ID occurrences. If tag 1347=0, tag 1351 is required. If tag 1347=2, tag 1351 is optional. If tag 1347=3, tag 1351 is not required.
→1355	RefApplID	C	FIX Source session identifier.
→1182	ApplBeginSeqNo	C	Message sequence number of first message in range to be resent.
→1183	ApplEndSeqNo	C	Message sequence number of last message in range to be resent. If request is for a single message, ApplBeginSeqNo = ApplEndSeqNo. If request is for all messages subsequent to a particular message, ApplEndSeqNo = "0". The ApplicationResendResponse message will indicate the “proper” ApplEndSeqNo, which is the last application message ACTUALLY resent. Messages sent with an application sequence number higher than this can be recognized as being new messages.
	StandardTrailer	Y	

Y = FIX required, N = Not required, C = Conditionally required

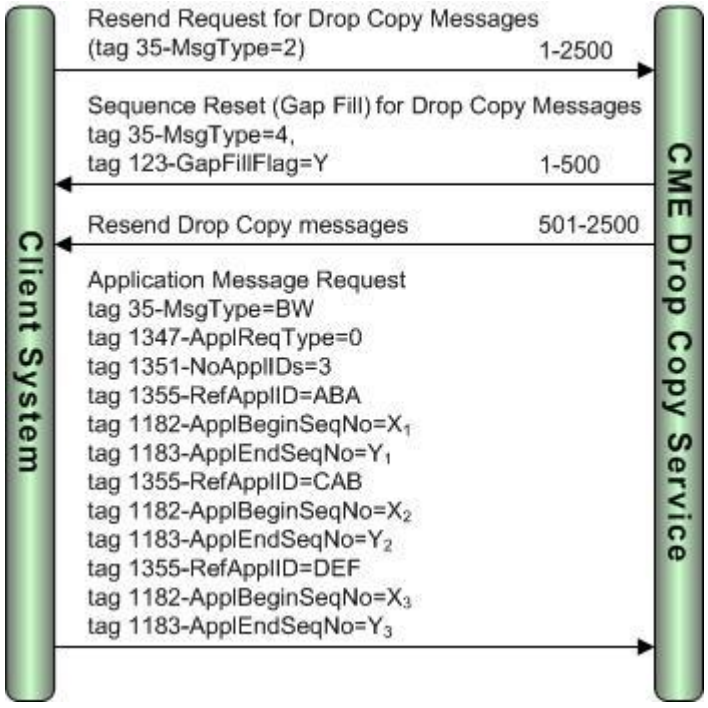
Note: CME strongly recommends the client system submit this message with a defined value in tag 1183-ApplEndSeqNo rather than 0.

The following examples illustrate the message behavior for the Application Resend process for a Drop Copy message cache containing a partial number of messages in the requested sequence and a Drop Copy cache containing none of the messages in the requested sequence.

3.3.3.1 Example: Application Message Request: Drop Copy Cache Contains Partial Resend Request Sequence (ApplReqType=0)

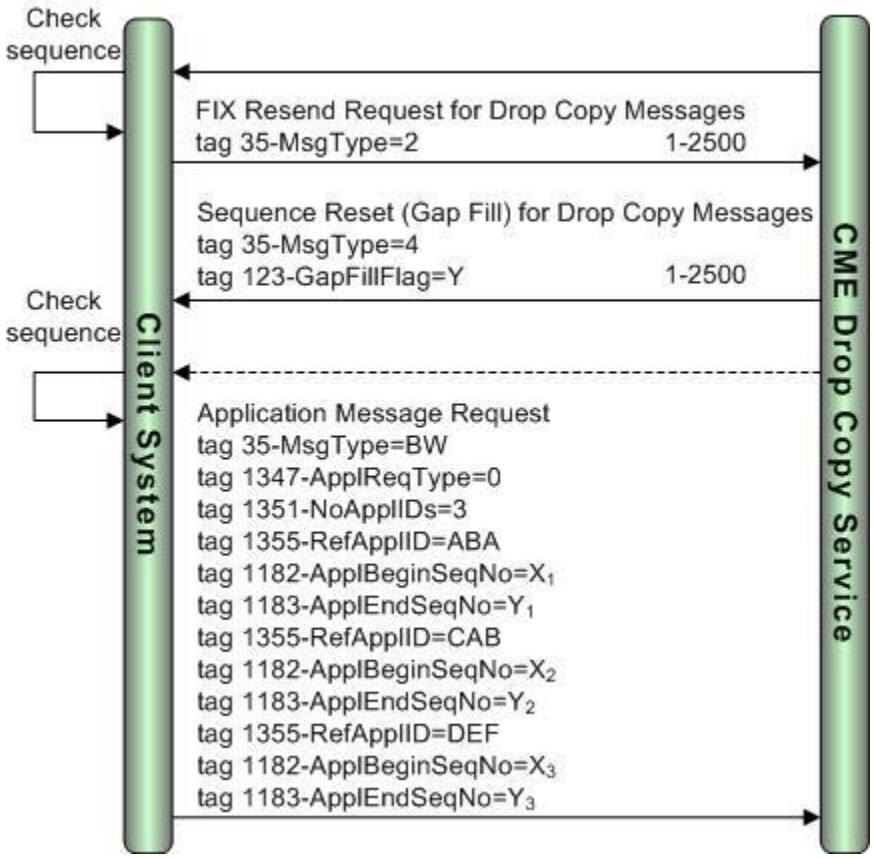
This diagram shows a possible resend scenario in which the Drop Copy cache contains some but not all of the messages in the FIX Resend Request sequence for three Source sessions.

Note: This example assumes the first 500 messages absent from the cache and a Resend Request of 1-2500.



3.3.3.2 Example: Application Message Request: Drop Copy Cache Contains No Messages in the Resend Request Sequence (ApplReqType=0)

This diagram shows a resend scenario in which the Drop Copy cache contains none of the messages requested in the FIX Resend Request sequence for three Source sessions.



3.3.4 Application Message Request Acknowledgment (tag 35-MsgType=BX)

CME Globex sends the Application Message Request Acknowledgment message in response to the Application Message Request (tag 35-MsgType=BW) message. The Application Request Acknowledgment contains complete details regarding the response to the resend request.

→ designates a repeating group tag

Tag	FIX Name		Req'd	Description
	StandardHeader		Y	MsgType = BX
1353	ApplRespID		Y	Identifier for the Application Resend Response
1346	ApplReqID		Y	Unique identifier for request
1347	ApplReqType		Y	Type of application resend response being sent: 0 – retransmission of application messages 2 – request for the last ApplLastSeqNum published 3 – request valid set of ApplFeedIDs
1348	ApplRespType		Y	0 – Request successfully processed (all requested messages could be returned) 1 – Unable to process all requested messages. Each RefApplID in the group below must be checked to verify whether any messages are available. 2 – Messages not available. This is most commonly used when a given ApplId does not support Application Message recovery.
1349	ApplTotMsgCnt		N	Total number of messages included in transmission. Can be supplied if known
1351	NoApplIDs		Y	Specifies number of application id occurrences
→	1355	RefApplID	C	FIX Source session identifier.
→	1182	ApplBeginSeqNo	C	Message sequence number of first message in range to be resent. The client system must use this tag in conjunction with tag 1183-ApplEndSeqNo to obtain the range of resent messages.

Tag	FIX Name		Req'd	Description
→	1183	ApplEndSeqNo	C	Message sequence number of last message in range to be resent. If request is for a single message BeginSeqNo (7) = EndSeqNo. If request is for all messages subsequent to a particular message, EndSeqNo = highest existing sequence number that the DCGW has seen for a given ApplFeedID. The client system must use this tag in conjunction with tag 1-ApplBeginSeqNo to obtain the range of resent messages.
→	1357	RefApplLastSeqNum	C	Application sequence number of last message in transmission
→	1354	ApplRespError	N	Used if response error for a given ApplFeedID; resend is not possible.
58	Text		N	Description provided by sender
	StandardTrailer		Y	

Y= Required, N = Not required, C = Conditionally required.

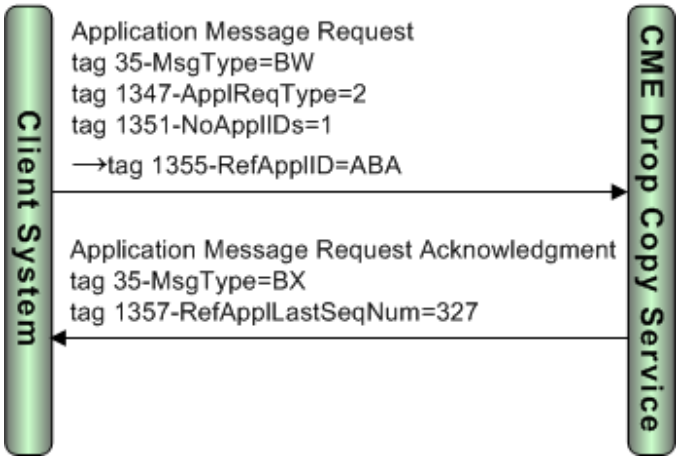
The following examples illustrate the other two uses of the Application Message Request process—obtaining the last published Application Sequence Number for 1-n Source sessions and obtaining a valid set of Application Feed IDs for all current Source sessions.

3.3.4.1 Example: Application Message Request for the Last Application Sequence Number Published (ApplReqType=2)

The following two diagrams show how the Application Message Request (tag 35-MsgType=BW) can be used to request the last published application sequence number for a specified Source session or for all Source sessions.

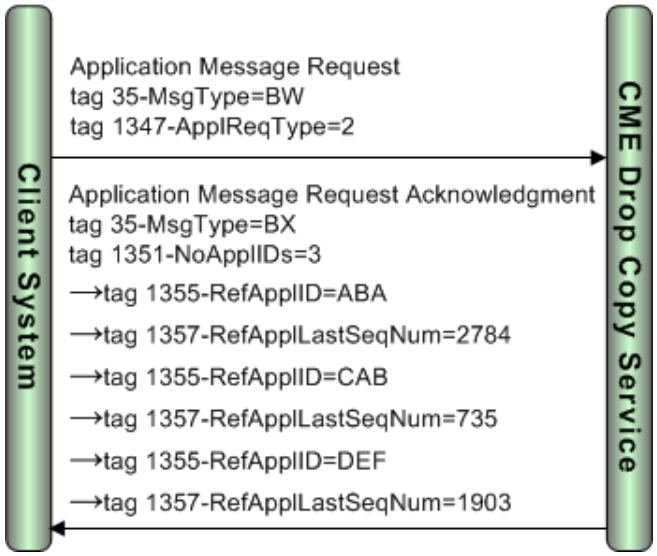
To request the last published application sequence number for a specific Source session, tag 1347-ApplReqType=2 and the Source session is specified in repeating group tag 1355-RefApplID.

Specified Source Session



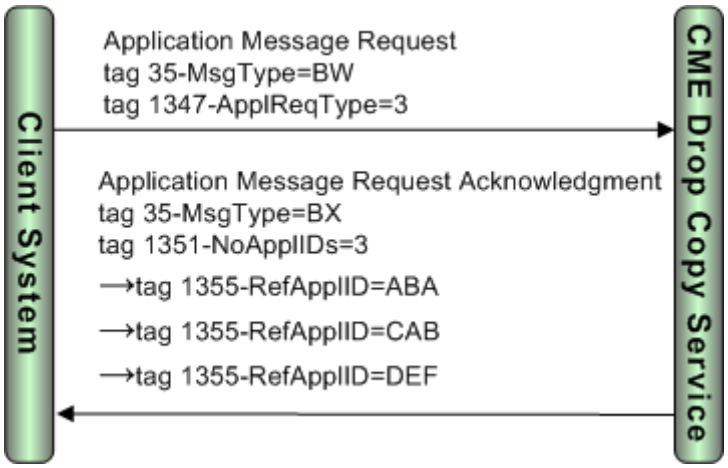
To request the last published application sequence number for all Source sessions, tag 1347-ApplReqType=2 and tag 1351-RefApplID is not sent.

All Source Sessions



3.3.4.2 Example: Application Message Request for Set of Application Feed IDs (ApplReqType=3)

The following diagram shows how the Application Message Request is used to obtain all connected Source sessions with tag 1347-ApplReqType=3.



3.3.5 Application Message Report (tag 35-MsgType=BY)

CME Globex sends the Application Message Report (tag 35-MsgType=BY) message to indicate that the Application Resend process is complete. An Application Message Report is generated for each specified Source session that has completed the resend process. Also, each report identifies the Source session that initiated the Application Resend.

→ designates a repeating group tag

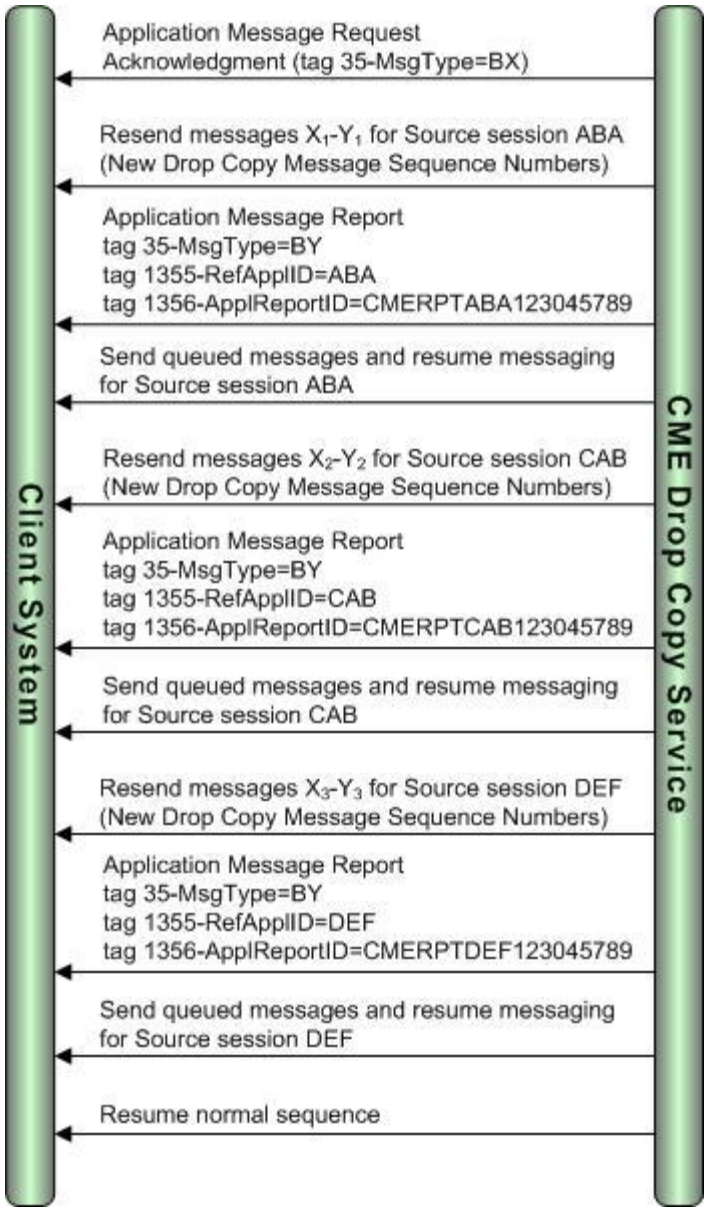
Tag	FIX Name	Req'd	Description
	StandardHeader	Y	MsgType = BY
1356	ApplReportID	Y	Identifier for the Application Message Report. Maximum length of 32 bytes. The format is: 'CMERPT' + Source session + two digits for hours + two digits for minutes + two digits for seconds + three digits for milliseconds. Example: 'CMERPTXXXXXXX123045789'
1426	ApplReportType	N	Reason the Application Message Report is being sent. 3 – Application Resend completed
1351	NoApplIDs	N	Specifies number of application id occurrences. Should always be 1, because Drop Copy issues a separate report for each Source session that completes an Application Resend.

Tag	FIX Name		Req'd	Description
→	1355	RefApplID	C	Indicates which Source session has completed an Application Resend.
→	1357	RefApplLastSeqNum	C	Application sequence number of last message in transmission. This is the last application sequence number that should have been received based on the current filtering rules.
	StandardTrailer		Y	

Y= Required, N = Not required, C = Conditionally required.

3.3.5.1 Example: Application Message Report Messages

This diagram shows an example of Application Message Report messages for three Source sessions being sent in response to an Application Message Request Acknowledgement.



3.4 Fault Tolerance

Drop Copy configuration provides the client system a pair of connections, one for primary and one for backup, i.e., the first connection is the primary connection and the second is the backup connection. If the primary connection fails and the client connects to the backup, the backup begins with the next available sequence number. Tag 43-PossDup is not included in the message.

Note: Dual connection is not allowed.

3.4.1 Processing Tag 369-LastMsgSeqNumProcessed

The value of tag 369-LastMsgSeqNumProcessed on Administrative messages will always reflect the sequence of the Drop Copy instance you are currently connected to. If connecting mid-week to another instance, for example in the event of a failover, the value of tag 369-LastMsgSeqNumProcessed will start at default and maintain sequence integrity in relation to that instance.

A sequence reset between instances can result in unreliable behavior for tag 369-LastMsgSeqNumProcessed.

3.5 Suggested Startup Procedure

Client systems should send an Application Message Request (tag 35-MsgType=BW) requesting the tag 1350- ApplLastSeqNum and tag 1347-ApplReqType=2. This will provide client systems with both the list of valid Source sessions, and their respective last sequence numbers published.

Client systems can then use the results of the reply to this message to populate an Application Message Request (tag 35-MsgType=BW), retransmission request (tag 1347-ApplReqType=0) for any messages that may have been missed.

4. Testing and Certification

Mandatory certification for Drop Copy is comprised of three tests to validate client system ability to receive and process Drop Copy messages, perform a FIX resend, and perform an Application resend.

For more information contact Customer Support for Electronic Trading (CSET) at:
312-930-2322
CSET@cmegroup.com

Revision History

Version	Date	Author	Description
1.0	2/6/08	LM	Initial release.
1.1	5/20/08	DJT	Section 3.2.3: “Application Message Sequencing”: modifications to tag 57–TargetSubID and tag 1180–ApplFeedID. Section 3.3.2: “Application Resend Process”: added additional note. Section 3.3.3: “Application Message Request (tag 35-MsgType=BW)”: modification to tag 1351– NoApplIDs. Section 3.3.4: “Application Message Request Acknowledgment (tag 35-MsgType = BX)”: modification to to tag 1351– NoApplIDs.
1.2	6/3/08	DJT	Section 3.2.1: "Application Messages": Added sentence mentioning tag 797-CopyMsgInd=Y. Section 3.2.2.1: "Parties Block": Added tag 797-CopyMsgInd to diagram. Section 3.2.3: "Application Message Sequencing": Changed “Three new tags...” to “Five new tags...,”Added tag 797-CopyMsgInd to table, Added tag 797-CopyMsgInd to diagram. Section 3.3.2 “Application Resend Process”: Added 5th bullet item under “Notes:” concerning tag 43-PossDupFlag and tag 122-OrigSendingTime.

Version	Date	Author	Description
1.3	7/16/08	DJT	• Section 1: “Introduction to Drop Copy”: Updated diagram. • Section 1.2: “Drop Copy Terminology”: Added mention of Application Message Report (tag 35-MsgType=BY). • Section 3.2.3: “Application Message Sequencing”: Added row for tag 1352- ApplResendFlag. • Section 3.3.2 “Application Resend Process”: Removed bullet item under “Notes:” for determining completion of Application Resend, revised statement about concurrent Application Message Request messages, updated note concerning message queuing, moved introduction of examples to Section 3.3.3, added note about tag 1352-ApplResendFlag. • Section 3.3.3.1: “Example: Application Message Request: Drop Copy Cache Contains Partial Resend Request Sequence (ApplReqType=0)”: Moved from Section 3.3.2.1, updated diagram and edited introduction. • Section 3.3.3.2: “Example: Application Message Request: Drop Copy Cache Contains No Messages in the Resend Request Sequence (ApplReqType=0)”: Moved from Section 3.3.2.2, updated diagram and edited introduction. • Added Section 3.3.5: “Application Message Report (tag 35-MsgType=BY)”. • Added Section 3.3.5.1: “Example: Application Message Report Messages”.
1.4	8/19/08	DJT	• Removed Acknowledgment of Order Creation (tag 39-OrdStatus=0 [new]), Reject Message (tag 39-OrdStatus=8 [rejected]), Order Cancel Reject (tag 35-MsgType=9), and Business Level Reject (tag 35-MsgType=j) messages from Section 3.2.1: “Application Messages”. • Changed tag 443 to tag 453 in diagram in Section 3.2.2.1: “Parties Block”.
1.5	1/14/09	DJT	Removed sentence about concurrent Application Message Request (tag 35-MsgType=BW) messages from bullet item in Section 3.3.2: “Application Resend Process”.

Version	Date	Author	Description
1.6	5/15/09	DJT	• Clarified note about 2500 message resend constraint in 3.3.2 “Application Resend Process”. • Clarified bullet about multiple Application Message Request messages in 3.3.2 “Application Resend Process”. • Added bullet concerning administrative messages in 3.3.2 “Application Resend Process”.
1.7	7/14/09	DJT/CR	Added reference to configuration and fees in 1.1 “Configuration and Fees”.
1.8	7/16/09	CR	Minor text edits.
1.9	3/1/10	DJT	• Changed tag 118 to tag 1180 in 3.2.3: “Application Message Sequencing” • Added Acknowledgment of Order Creation (tag 39-OrdStatus=0 [new]) Section 3.2.1: “Application Messages”