



Trade Reporting Facilities (TRF)

Messaging Specification

v2.15
7/21/2009

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Document Revisions

Version	Primary Author(s)	Description of Version	Date Completed
0.1	Andrew Broome	First cut based on translations doc	11/3/2006
0.2	Andrew Broome	Updates	11/7/2006
0.3	Andrew Broome	Updated to follow TRF workflow document	11/10/2006
0.4	Andrew Broome	<p>Updates based on 11/10/06 discussion:</p> <ul style="list-style-type: none"> - Firm ID length in ArcaEx message decreased from 10 to 5. - ArcaEx field TradeReportIDInt renamed to ClOrdIDInt. - Added TrdMatchID(880) to outbound customer notifications to indicate NASD assigned ID. - Added master message definition for customer facing FIX ExecutionReport(8) 	11/13/2006
0.5	Andrew Broome	<ul style="list-style-type: none"> - Changed Reject scenario to indicate TRF will validate and reject trade reports, not NASD - Added system component diagrams to each messaging translation step. - Updated existing ArcaEx fields with existing lengths 	11/29/2006
0.6	Andrew Broome	<ul style="list-style-type: none"> - Updated messaging scenarios based on latest discussions. - Removed AGU as a clearing option 	12/8/2006
0.7	Andrew Broome	<ul style="list-style-type: none"> - added NMS fields to FIX and ArcaEx messages - added LocationID fields to ArcaEx mappings that are used to route messages back to correct customer FIX connection 	12/11/2006
1.0	Andrew Broome	<ul style="list-style-type: none"> - Cleaned up usage of TradeReportType(856) and TrdRptStatus(939) on messages back to client - Added scenario for TRF ops bust/correct - Integrated Bob's answers to questions - Added SenderSubID/TargetSubID fields - Added descriptions for R msg header flds 	1/7/2007
1.1	Andrew Broome	<ul style="list-style-type: none"> - Added custom values to customer TrdType(828) field to support required NASD values - Corrected AsOfIndicator translation to 	1/24/2007

		TradeReportClass(8200) - Corrected tag number for PartyRole from 17 to 452 - Added text indicating IDs sent in customer messages for PartyRole must be MPIDs	
2.0	Andrew Broome	Added 3 Party TradeCaptureReport Added Clearing Firm ID field to one party trader report submit Moved CAP value from category 3 to category 4	2/2/2007
2.1	Andrew Broome	- Added customer facing 3 party correct message - Added mappings for all 3 party scenarios	2/5/2007
2.2	Andrew Broome	-Added PublishTrdIndicator to customer trade report message and copy into internal message as 8212	2/27/2007
2.3	Andrew Broome	-Updated mappings based on new NASD document	3/1/2007
2.4	Andrew Broome	- Added ClearingInstruction(577) values for Customer clearing, removed unused values	3/8/2007
2.5	Andrew Broome	-Added SymbolSfx(65) to customer facing messages and added mapping details for conversion to/from Symbol/SymbolSfx, Commstock, and CQS -Added PartyWithReportingObligation as a required PartyRole on messages submitted from customer -Made ContraFirmID required in trade report submissions	3/8/2007
2.6	Andrew Broome	-Add custom values to TrdType(828) for contingent trade and subpenny trade	3/22/2007
2.7		- Updates based on NASD feedback	3/30/2007
2.8	Andrew Broome	- Rework OATS ID handling	4/24/2007
2.9	David Rhodes	- Added TimePrepared to all NASD messages, per NASD required changes from 6/5/07	6/12/2007
2.10	Sean McNamara	- Numerous changes to synch documentation with actual rules implemented in production code. - Removed Three-Party trade reporting details until it is supported.	2/1/2008
2.11	Sean McNamara	- Remove Trade Correct references. Trade corrects are	2/1/2008

		not available.	
2.12	Sean McNamara	- Remove Trade Correct message specification.	2/22/2008
2.13	Marc Abend	- Added additional values to TrdType Category (828) & TrdType Category 2 (8217)	1/20/2009
2.14	Marc Abend	- Added "One Party, Multi-Party Trade Reporting" to Questions Section - Removed 54=8 (Cross) from Side	6/5/2009
2.15	Michael Perez	- Per FINRA, Replaced Market Maker (MM) with Executing Party (EP) - Added FINRA reporting requirement to Notes section	7/21/2009

Outstanding Issues

Notes

- ❖ Customer side messages use NASDAQ message types, fields, and field values except for communication of parties which uses the Parties block as is current FIX best practice.
- ❖ Fields on inbound Execution Reports (8) from customers that are not needed but required by the FIX protocol are not defined. If customers send these fields, they will be ignored (message will not be rejected). For outbound Execution Reports to clients, all FIX required fields will be sent with defaults as per the NASDAQ spec. This will be compatible with the greatest number of existing systems without requiring customers to send unused fields.
- ❖ Outbound fields not required in the FIX Execution Report will not be echoed back.
- ❖ Support all NASD values. Reject if NASDAQ field value sent that can not be mapped
- ❖ Need ability to reject trade reports if stopped in symbol (TRF Gateway or TRF?)
- ❖ Market hours are: 9:30:00 a.m. E.T – 16:00:00 p.m. E.T. Anything executed outside market hours are extended hours.
- ❖ Publish Indicator is a required field on input to the TRF. The NYSE TRF gateway will reject the trade message if fix tag 852 is blank or missing.
- ❖ Execution time is a required field on input to the TRF. The NYSE TRF gateway will reject the trade message if fix tag 60 is blank or missing.
- ❖ TRF Client firms are required to synchronize their clocks with the atomic clock.
- ❖ Price cannot exceed 6 decimal places.
- ❖ Execution Date and Time are required on As-Of and Reversal transactions.
- ❖ Contra Party must be a FINRA member or other entity as specifically permitted by FINRA; if it is otherwise a non-member or customer, the field should be populated with the reporting firm id.
- ❖ Short sell reason code is required on short sale reports. Reason codes are:
 - Dealer Sold Short
 - Selling Customer Sold Short
 - QSR or AGU contra side Sold Short

- ❖ Owner category contra is no longer required (fix 9861). If populated FINRA will reject. (This is the current behavior in the FINRA test env. Need to dbl check if and when they are moving this to prod)
- ❖ Firms with the trade reporting obligation that are acting in a riskless principal or agency capacity on behalf of another member firm(s) need to submit non-tape report(s) to FINRA, as necessary, to identify such other firm(s) as a party to the trade.

Questions

- Should NASDAQ CTCI message names be sent back in FIX messages to customer in the Text (58) field?
- Will NASD send session level rejects? If so, will need TRF Gateway logic to lookup Trade Capture Report sent to NASD.
- What is One Party, Multi-Party Trade Reporting?

A "One Party, Multi-Party Trade Report" is created when one Reporting Firm is reporting on behalf of two contras, e.g. in an ATS-like capacity.

A "One Party, Multi-Party Trade Report" comprises one "buy" (54=1) and one "sell" (54=2), with the Reporting Firm taking the other side of each designated contra in the trade. One report should be marked "media", and one report should be marked "non-media."

e.g. Reporting Firm ABCD wishes to report a trade in symbol "XYZ" on behalf of two of its Finra-approved clients, JKLM and QRST. The following partial construct should be used when identifying the parties and their roles:

```
54=1 (Buy)
55=XYZ
448=JKLM      452=17 (contra firm)
448=ABCD      452=55 (party with reporting obligation)
487=1
852=N (non-media)
```

```
54=2 (Sell)
55=XYZ
448=QRST      452=17 (contra firm)
448=ABCD      452=55 (party with reporting obligation)
487=1
852=Y (media)
```

The side chosen as the "media" side is arbitrarily determined by the Reporting Firm - as long as one, and only one report for the same trade is marked "media" (852=Y), and the other is marked "non-media." (852=N)".

Message Definitions

Customer Facing

FIX Execution Report - Master Message

This message definition includes all fields and values used for inbound and outbound messaging with the TRF. See specific use case definition for required fields and valid field values.

Execution Report(8)

Tag	Field Name	Req'd	Notes
	Standard Header	Y	MsgType =8
856	TradeReportType	Y	Used to identify message type Valid values: 0 = Submit 6 = Trade Report Cancel
571	TradeReportID	Y	Unique identifier of trade capture report. Must be unique per day per connector for your firm across all messages. 20-character alphanumeric.
939	TrdRptStatus	N	Present on accept and reject messages from the TRF. Not present on break messages from the TRF. Valid values: 0 = Accepted 1 = Rejected
9861	BranchSeqNbr	Y	OATS ID
17	ExecID	N	Ignored on messages sent to the TRF. Always 0 on messages from the TRF.
20	ExecTransType	N	Ignored on messages sent to the TRF. Always 0 (New) on messages from the TRF.
39	OrdStatus	N	Ignored on messages sent to the TRF. Always 0 on messages from the TRF.
150	ExecType	N	Ignored on messages sent to the TRF. Always 1 (Status) on messages from the TRF.
151	LeavesQty	N	Ignored on messages sent to the TRF. Always 0 on messages from the TRF.
81	ProcessCode	N	Valid values: 0 = regular (default) 3 = Step-out trade 8 = Special and Step-out trade

Tag	Field Name	Req'd	Notes	
700	ReversalIndicator	N	Valid values: N = Not a reversal (default) Y = reversal K = reversal of an Over the Counter (NASD/TRF) trade for NASDAQ-listed securities	
5080	AsOfIndicator	N	Valid values: Y = As-of (T+1 to T+n) N = Original (T-day entry)	
54	Side	Y	Valid values: 1 = buy 2 = sell	
14	CumQty	Y	Reported qty	
6	AvgPx	Y	Reported price	
55	Symbol	Y		
65	SymbolSfx	N		
453	NoPartyIDs	Y	Based on the number of parties to be indicated.	
→	448	PartyID	Y	MPID of Contra Firm
→	452	PartyRole	Y	= 17 (Contra Firm)
→	448	PartyID	N	MPID of Executing Firm
→	452	PartyRole	N	= 1 (Executing Firm)
→	448	PartyID	N	NSCC Participant number of Clearing Firm
→	452	PartyRole	N	= 4 (Clearing Firm)
→	448	PartyID	Y	MPID of Party with Reporting Obligation
→	452	PartyRole	Y	= 55 (Party with Reporting Obligation)
855	SecondaryTrdType	N	Trade Type Category 1 Field Values Settlement type sales conditions Valid values: not present = Regular 0 = Cash 1 = Next Day 2 = Seller's Option	
828	TrdType	N	Trade Type Category 2 Field Values Rule 611 Trade through exempt reason sales conditions Valid Values: 11 - Derivatively Priced 14 - Received Intermarket Sweep 80 - Error Correction (ECOR) 81 - Print Protection (PPRO) 100 - Self Help 101 - Initiated Intermarket Sweep 102 - Contingent Trade 103 - Subpenny Trade	

Tag	Field Name	Req'd	Notes
829	TrdSubType	Y	Indicates whether the trade is exempt from the trade through rule or not. Valid values: 0 = No Trade Through Exemption 1 = Trade Through Exemption
8217	Trade Type Category 2	N	Valid Values: = 14 (Derivatively Priced) = 12 (Received Intermarket sweep order) = 17 (Self Help) = 18 (Initiated Intermarket sweep order) = 72 (Error Correction ECOR) = 73 (Print Protection PPRO)
8218	Trade Type Category 3	N	Extended hours sales conditions Valid Values: 9 - Form T 53 - Sold Last 10 - Sold Out of sequence 41 - Extended trading hours sold out of sequence
8219	Trade Type Category 4	N	SRO Detail sales conditions Valid values: 54 - Stopped Stock 55 - Acquisition 56 - Distribution 60 - Split Trade 63 - Identified a trade price that is unrelated to the current market 37 - Average price trade 39 - Prior reference price 44-Oddlot trade 43-Trade related to an option 61-Auto Execution 62 - CAP Election Trade
75	TradeDate	N	only if AsOf
60	TransactTime	Y	Time of execution
58	Text	N	Ignored on messages sent to the TRF
751	TradeReportRejectReason	N	Sent on trade report rejects Valid values: 99 = Other
8211	SettlementDate	N	Required for none regular way trade
528	OrderCapacity	Y	Valid values: P = principal A = agent R = riskless principal

Tag	Field Name	Req'd	Notes
9862	ContraTradePA	N	Valid values: P = Principal A = agent R = Riskless Principal
577	ClearingInstruction	Y	Valid values: 98 = QSR no clear 12 = Customer trade
852	PublishTrdIndicator	Y	Indicates if the trade report shall be published to the SIPs. Valid values: Y = Publish N = Clearing Only
853	ShortSaleReason	N	Reason for short sale. Valid values: 0 = Dealer Sold Short 1 = Dealer Sold Short Exempt 2 = Selling Customer Sold Short 3 = Selling Customer Sold Short Exempt 4 = Contra Side Sold Short 5 = Contra Side Sold Short Exempt Only values 2 and 3 are allowed for cross trades.
8201	TRF Price Override	N	Valid values: N - No override Y - price override
	Standard Trailer	Y	

FIX Execution Report - Inbound One Party Trade Report Submit

Note: Any fields not listed are not required for a One Party Trade Report Submit

Execution Report(8)

Tag	Field Name	Req'd	Notes
	Standard Header	Y	MsgType =8
856	TradeReportType	Y	Used to identify message type. When entering a new trade, the only valid value is: 0 = submit
571	TradeReportID	Y	Unique identifier of trade capture report. Must be unique per day per connector for your firm across all messages. 20-character alphanumeric.
9861	BranchSeqNbr	Y	OATS ID
81	ProcessCode	N	Valid values: 0 = regular (default) 3 = Step-out trade 8 = Special and Step-out trade

Tag	Field Name	Req'd	Notes	
700	ReversalIndicator	N	Valid values: N = Not a reversal (default) Y = reversal K = reversal of an Over the Counter (NASD/TRF) trade for NASDAQ-listed securities	
5080	AsOfIndicator	N	Valid values: Y = As-of (T+1 to T+n) N = Original (T-day entry)	
54	Side	Y	Valid values: 1 = buy 2 = sell	
14	CumQty	Y		
6	AvgPx	Y		
55	Symbol	Y		
65	SymbolSfx	N		
453	NoPartyIDs	N	Based on the number of parties to be indicated.	
→	448	PartyID	Y	MPID of Contra Firm
→	452	PartyRole	Y	= 17 (Contra Firm)
→	448	PartyID	N	MPID of Executing Firm
→	452	PartyRole	N	= 1 (Executing Firm)
→	448	PartyID	N	NSCC Participant number of Clearing Firm
→	452	PartyRole	N	= 4 (Clearing Firm)
→	448	PartyID	Y	MPID of Party with Reporting Obligation
→	452	PartyRole	Y	= 55 (Party with Reporting Obligation)
855	SecondaryTrdType	N	Trade Type Category 1 Field Values Settlement type sales conditions Valid values: not present = Regular 0 = Cash 1 = Next Day 2 = Seller's Opinion	
828	TrdType	N	Trade Type Category 2 Field Values Rule 611 Trade through exempt reason sales conditions Valid Values: 11 - Derivatively Priced 14 - Intermarket Sweep 80 – Error Correction (ECOR) 81 – Print Protection (PPRO) 100 - Self Help 101 - Initiated Intermarket Sweep 102 – Contingent Trade 103 – Subpenny Trade	

Tag	Field Name	Req'd	Notes
829	TrdSubType	Y	Indicates whether the trade is exempt from the trade through rule or not. Valid values: 0 = No Trade Through Exemption 1 = Trade Through Exemption
8217	Trade Type Category 2	N	Valid Values: = 14 (Derivatively Priced) = 12 (Received Intermarket sweep order) = 17 (Self Help) = 18 (Initiated Intermarket sweep order) = 72 (Error Correction ECOR) = 73 (Print Protection PPRO)
8218	Trade Type Category 3	N	Extended hours sales conditions Valid Values: 9 - Form T 53 - Sold Last 10 - Sold Out of sequence 41 - Extended trading hours sold out of sequence
8219	Trade Type Category 4	N	SRO Detail sales conditions Valid values: 54 - Stopped Stock 55 - Acquisition 56 - Distribution 60 - Split Trade 63 - Identified a trade price that is unrelated to the current market 37 - Average price trade 39 - Prior reference price 44-Oddlot trade 43-Trade related to an option 61-Auto Execution 62 - CAP Election Trade
75	TradeDate	N	only if AsOf
60	TransactTime	Y	Time of execution
8211	SettlementDate	N	Required for none regular way trade
528	OrderCapacity	Y	Valid values: P = principal A = agent R = riskless principal
9862	ContraTradePA	N	Valid values: P = Principal A = agent R = Riskless Principal

Tag	Field Name	Req'd	Notes
577	ClearingInstruction	Y	Valid values: 98 = QSR no clear 12 = Customer trade
852	PublishTrdIndicator	Y	Indicates if the trade report shall be published to the SIPs. Valid values: Y = Publish N = Clearing Only
853	ShortSaleReason	N	Reason for short sale. Valid values: 0 = Dealer Sold Short 1 = Dealer Sold Short Exempt 2 = Selling Customer Sold Short 3 = Selling Customer Sold Short Exempt 4 = Contra Side Sold Short 5 = Contra Side Sold Short Exempt Only values 2 and 3 are allowed for cross trades.
8201	TRF Price Override	Y	Valid values: N - No override Y - price override
	Standard Trailer	Y	

FIX Execution Report - Outbound Trade Report Accept Notification

Note: Any fields not listed will not be sent on the notification.

Execution Report(8)

Tag	Field Name	Req'd	Notes
	Standard Header	Y	MsgType =8
856	TradeReportType	Y	Used to identify message type. When receiving a notification, the only valid value is: 0 = submit
939	TrdRptStatus	Y	= 0 (Accepted)
571	TradeReportID	Y	Unique identifier of trade capture report. Value from submit.
14	CumQty	Y	= 0
6	AvgPx	Y	= 0
55	Symbol	Y	value from submit
11	ClOrdID	N	= "NA"
17	ExecID	Y	= 0
20	ExecTransType	Y	= 0 (New)
37	OrderID	Y	= "NA"
39	OrdStatus	Y	= 0
54	Side	Y	value from submit
150	ExecType	Y	= 1 (Status)
151	LeavesQty	Y	= 0
58	Text	N	= TTEN
	Standard Trailer	Y	

FIX Execution Report - Outbound Trade Report Reject

Note: Any fields not listed will not be sent on the reject.

Execution Report(8)

Tag	Field Name	Req'd	Mapping Rule
	Standard Header	Y	MsgType = 8
856	TradeReportType	Y	Used to identify message type. When receiving a reject, the only valid value is: 8 = Error
939	TrdRptStatus	Y	= 1 (Rejected)
571	TradeReportID	Y	Unique identifier of trade capture report. Value from submit.
6	AvgPx	Y	value from submit
11	ClOrdID	N	= "NA"
14	CumQty	Y	value from submit
17	ExecID	Y	= 0
20	ExecTransType	Y	= 0 (New)
37	OrderID	Y	= 0
39	OrdStatus	Y	= 0
54	Side	Y	value from submit

Tag	Field Name	Req'd	Mapping Rule
55	Symbol	Y	value from submit
58	Text	N	Reject reason if available
150	ExecType	Y	= 1 (Status)
151	LeavesQty	Y	= 0
751	TradeReportRejectReason	Y	= 99 (Other)
	Standard Trailer	Y	

FIX Execution Report - Outbound Trade Report Break

Note: Any fields not listed will not be sent on the reject.

Tag	Field Name	Req'd	Mapping Rule
	Standard Header	Y	MsgType = 8
6	AvgPx	Y	value from submit
11	ClOrdID	N	= "NA"
14	CumQty	Y	value from submit
17	ExecID	Y	= 0
20	ExecTransType	Y	= 0 (New)
37	OrderID	Y	value from submit
39	OrdStatus	Y	= 0
54	Side	Y	value from submit
55	Symbol	Y	value from submit
58	Text	Y	= TCAN
150	ExecType	Y	= 1 (Status)
151	LeavesQty	Y	= 0
571	TradeReportID	Y	value from submit
577	ClearingInstruction	Y	map from ClearingIndicator(8202)
856	TradeReportType	Y	valid values: 6 = Cancel 7 = Break
	Standard Trailer	Y	

Internal Communication

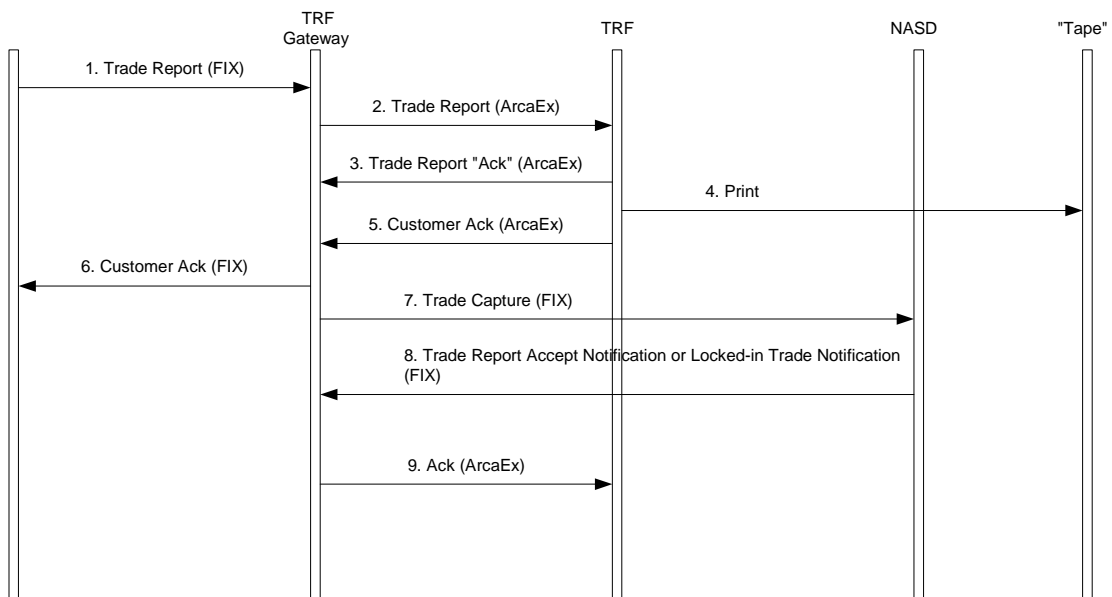
ArcaEx Trade Report

Tag	Field Name	Size	Type	Notes
35	MsgType	1	String	= R
	SeqNum	15	String	
49	SenderCompID	5	String	
56	TargetCompID	5	String	
115	OnBehalfOfCompID	5	String	not used
128	DeliverToCompID	5	String	not used
145	DeliverToLocationID	10	String	used by TRF to pass connection name to Gateway
129	DeliverToSubID	5	String	not used
144	OnBehalfOfLocationID	10	String	used by Gateway to pass connection name to TRF
116	OnBehalfOfSubID	5	String	not used
50	SenderSubID	10	String	used by Gateway to send TRF FIX sub session
57	TargetSubID	10	String	used by TRF to echo FIX sub session back to Gateway
487	TradeReportTransType	1	String	
571	TradeReportID	20	String	
	ClOrdIDInt	30	String	TRF assigned ID to send to NASD
11	ClOrdID	30	String	
8200	TradeReportClass	1	String	
54	Side	1	String	
38	OrderQty	15	int	
44	Price	10	String	
55	Symbol	8	String	
8201	PriceOverride	1	String	
8215	TRFOperationsPriceOverride	1	String	
	ContraFirmID	5	String	
	ContraFirmID2	5	String	Used for 3 party reporting
	ExecFirmID	5	String	
8208	TradeType	2	String	
8216	TradeThroughExemptFlag	1	String	
8217	TradeTypeCategory2	2	String	
8218	TradeTypeCategory3	2	String	
8219	TradeTypeCategory4	2	String	
8209	ExecutionDate	8	String	YYYYMMDD
8210	ExecutionTime	18	String	UTC datestamp
8211	SettlementDate	8	String	YYYYMMDD
37	OrderID	9	String	
	OrderIDInt	9	String	TRF assigned internal ID

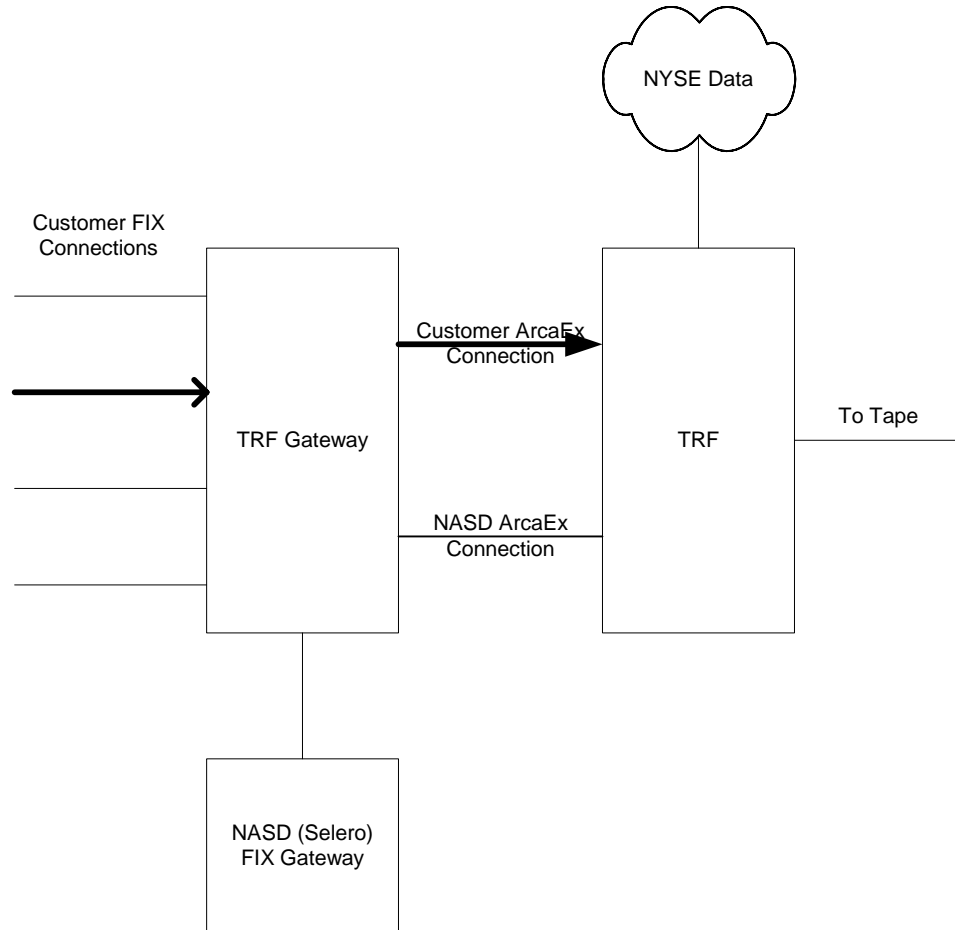
Tag	Field Name	Size	Type	Notes
8205	OwnerCategoryOwn	1	String	
	OwnerCategoryOwn2	1	String	Used for 3 party reporting
8206	OwnerCategoryContra	1	String	
	OwnerCategoryContra2	1	String	Used for 3 party reporting
8212	PublishIndicator	1	String	
8202	ClearingIndicator	1	String	
	ClearingIndicator2	1	String	Used for 3 party reporting
8203	ShortSaleReason	1	String	
	ShortSaleReason2	1	String	Used for 3 party reporting
8204	IntermarketTrade	1	String	
	GiveUpParticipantContraFirmID	5	String	
	GiveUpParticipantContraFirmID2	5	String	
	PartyWithReportingObligationID	5	String	
	ClearingFirmID	5	String	
	ContraClearingFirmID	5	String	
	ContraClearingFirmID2	5	String	
	IsThreeParty	1	String	
58	Text	40	String	
8220	TimePrepared	9	String	Format hhhmmsssss always expressed in UTC

Message Mappings

Trade Report Submission - Single Party



1-2. Customer submits FIX Trade Report to TRF Gateway, TRF gateway translates to ArcaEx Trade Report and sends to TRF



Customer FIX Execution Report(8) to TRF ArcaEx Trade Report

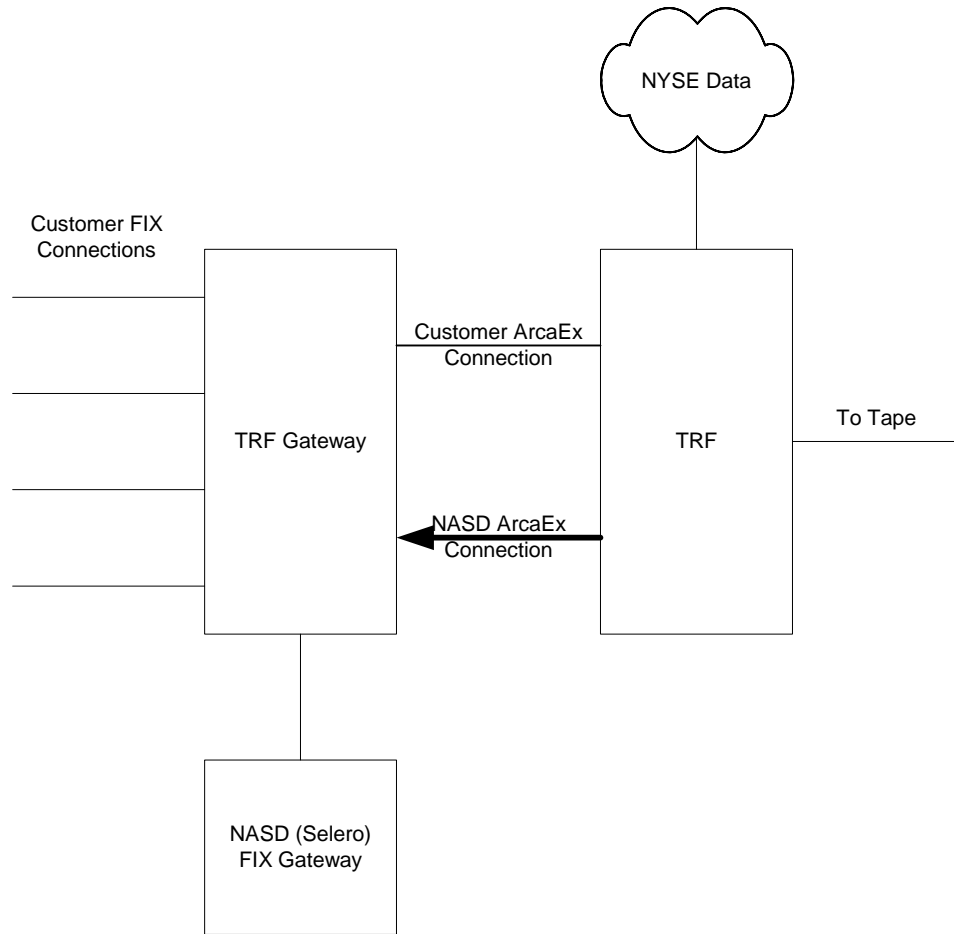
Tag	Field Name	Size	Type	Mapping Rule
35	MsgType	1	String	= R
50	SenderSubID	10	String	copy from SenderSubID(50)
57	TargetSubID	10	String	not set
144	OnBehalfOfLocationID	10	String	set to connection name
145	DeliverToLocationID	10	String	not set
487	TradeReportTransType	1	String	= 1
571	TradeReportID	20	String	copy from TradeReportID(571)
	ClOrdIDInt	20	String	not set
11	ClOrdID	20	String	copy from BranchSeqNbr(9861)

Tag	Field Name	Size	Type	Mapping Rule
8200	TradeReportClass	1	String	conditionally set based on ProcessCode(81), ReversalIndicator(700), AsOfIndicator(5080): if ProcessCode(81) is {0} = 1 else if ProcessCode(81) is {3, 8} = 3 else if ReversalIndicator(700) is {Y, K} = 4 else if AsOfIndicator(5080) is {Y} = 2 else if ProcessCode(81), ReversalIndicator(700), AsOfIndicator(5080) not present = 1
54	Side	1	String	copy from Side(54)
38	OrderQty	15	int	copy from CumQty(14)
44	Price	10	String	copy from AvgPx(6)
55	Symbol	8	String	Set based on Symbol(55) and SymbolSfx(65) to translate CQS to Comstock
8201	PriceOverride	1	String	copy from TRF Price Override(8201)
8215	TRFOperationsPriceOverride	1	String	= 'N'
	ContraFirmID	5	String	copy from PartyID(448) in Parties group with PartyRole(452)=17
	ContraFirmID2	5	String	not set
	ExecFirmID	5	String	copy from PartyID(448) in Parties group with PartyRole(452)=1
8208	TradeType	2	String	map from SecondaryTrdType (855) if not present = 8 (Regular) else if 0 = 33 (Cash) else if 1 = 35 (Next Day) else if 2 = 36 S(eller's Opinion)
8216	TradeThroughExemptFlag	1	String	map from TrdSubType(829) if 0 = N (No trade through exemption) else if 1 = Y (trade through exemption)

Tag	Field Name	Size	Type	Mapping Rule
8217	TradeTypeCategory2	2	String	map from TrdType(828) if 11 = 48 (Derivatively Priced) else if 14 = 46 (Received Intermarket sweep order) else if 100 = 51 (Self Help) else if 101 = 52 (Initiated Intermarket sweep order) else if 102 = 64 (Contingent Trade) else if 103 = 65 (Subpenny Trade)
8218	TradeTypeCategory3	2	String	copy from TradeTypeCategory3(8218)
8219	TradeTypeCategory4	2	String	copy from TradeTypeCategory4(8219)
8209	ExecutionDate	8	String	copy from TradeDate(75) if TradeDate(75) not present, set to today in YYYYMMDD format
8210	ExecutionTime	18	String	copy from TransactTime(60)
8211	SettlementDate	8	String	copy from SettlementDate(8211)
37	OrderID	9	String	copy from OrderID(37)
	OrderIDInt	9	String	not set
8205	OwnerCategoryOwn	1	String	map from OrderCapacity(528) if P (Principal) = 3 (Executing Party) else if A (Agent) = 1 (Client) else if R (Riskless Principal) = 5 (Riskless)
	OwnerCategoryOwn2	1	String	not set
8206	OwnerCategoryContra	1	String	map from ContraTradePA(9862) if P (Principal) = 3 (Executing Party) else if A (Agent) = 1 (Client) else if R (Riskless Principal) = 5 (Riskless)
	OwnerCategoryContra2	1	String	not set
8212	PublishIndicator	1	String	map from PublishTrdIndicator(852) if Y = S If N = N

Tag	Field Name	Size	Type	Mapping Rule
8202	ClearingIndicator	1	String	map from ClearingInstruction(577) if {11 (QSR clear), 98 (QSR no clear)} = Q (QSR) else if 10 (AGU Lock-in) = G (AGU) else if 12 (Customer Trade) = C (Customer) else if 13 (Self Clearing) = S (Self) else don't set a value
	ClearingIndicator2	1	String	not set
8203	ShortSaleReason	1	String	map from ShortSaleReason(853) if present if 0 (Dealer Sold Short) = Z if 1 (Dealer Sold Short Exempt) = E if 2 (Selling Customer Sold Short) = C if 3 (Selling Customer Sold Short Exempt) = K if 4 (Contra Side Sold Short) = P if 5 (Contra Side Sold Short Exempt) = A
	ShortSaleReason2	1	String	not set
8204	IntermarketTrade	1	String	= N
	GiveUpParticipantContraFirmID	5	String	not set
	GiveUpParticipantContraFirmID2	5	String	not set
	PartyWithReportingObligationID	5	String	copy from PartyID(448) in Parties group with PartyRole(452)=55 (Party with reporting Obligation)
	ClearingFirmID	5	String	copy from PartyID(448) in Parties group with PartyRole(452)=4 (Clearing Firm)
	ContraClearingFirmID	5	String	not set
	ContraClearingFirmID2	5	String	not set
	IsThreeParty	1	String	not set
58	Text	40	String	not set
8220	<u>Time Prepared</u>	9	<u>String</u>	<u>Populated by TRF gateway as current time (i.e. when the customer message was received) in UTC</u>

3. TRF validates Trade Report, acknowledges back to TRF Gateway with ID(s) set to internal values

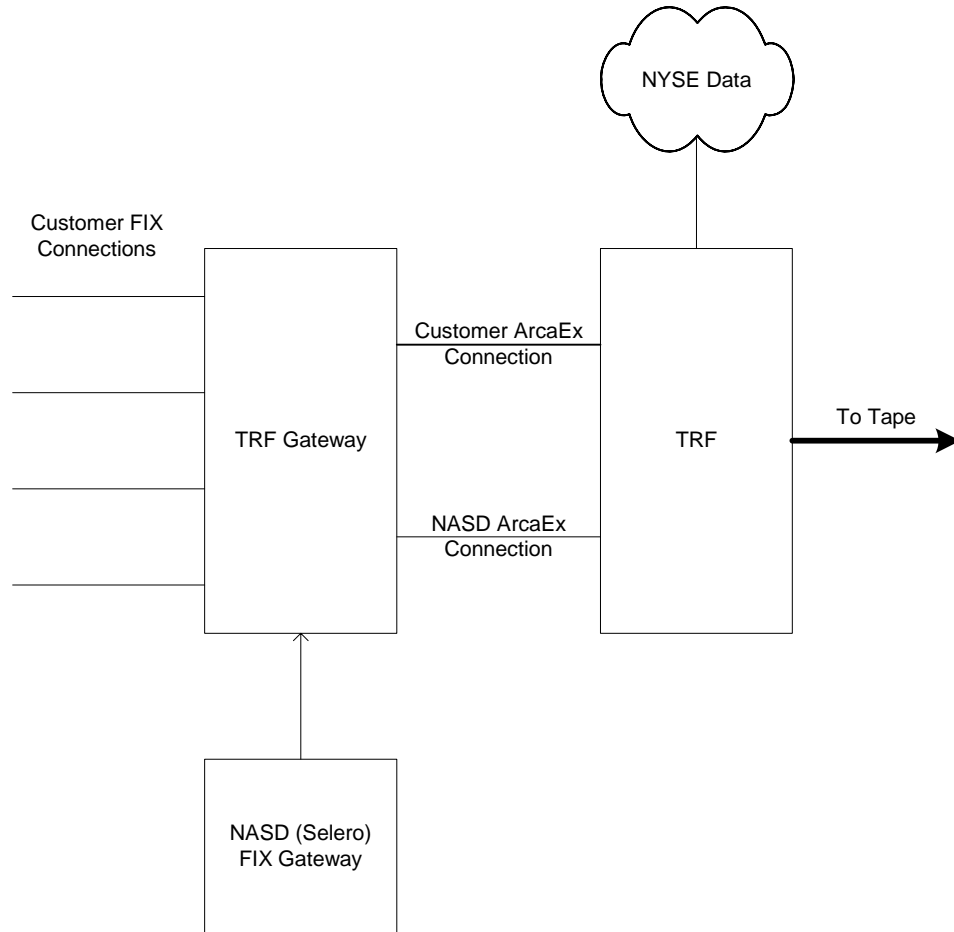


TRF ArcaEx Trade Report to TRF Gateway ArcaEx Trade Report

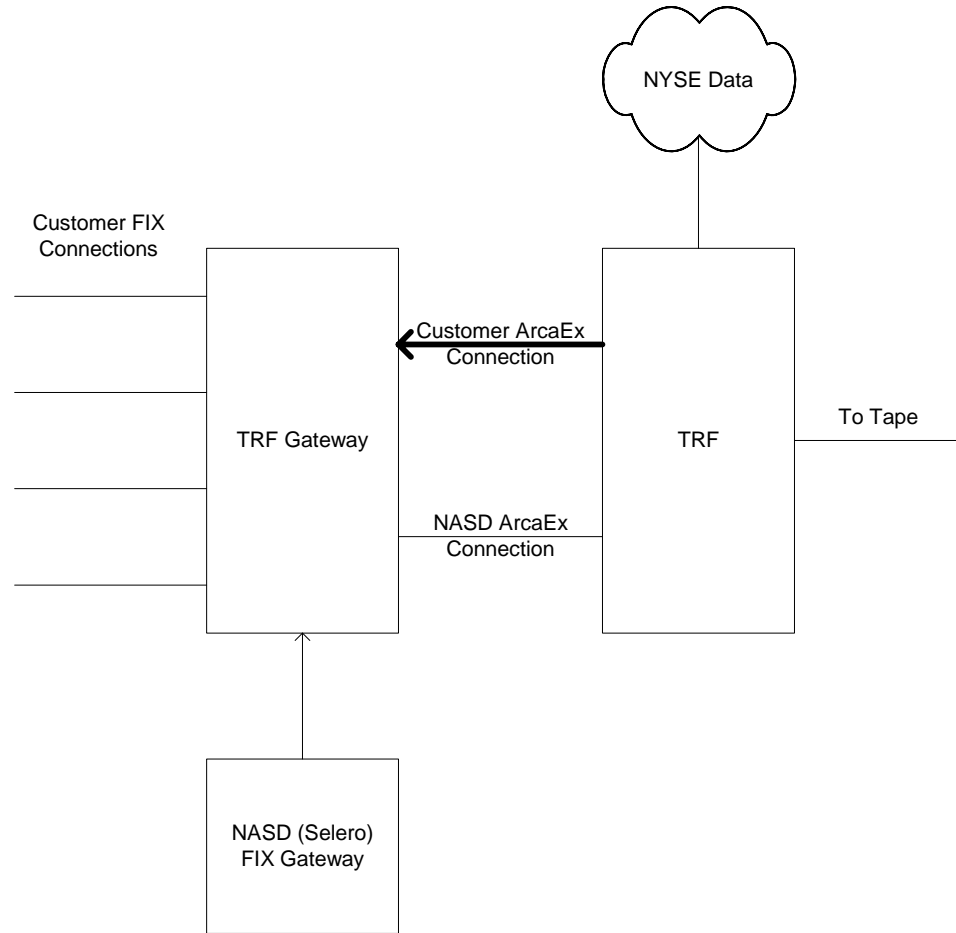
Tag	Field Name	Size	Type	Mapping Rule
35	MsgType	1	String	= R
50	SenderSubID	10	String	not set
57	TargetSubID	10	String	not set
145	DeliverToLocationID	10	String	not set
144	OnBehalfOfLocationID	10	String	not set
487	TradeReportTransType	1	String	= 0 (Ack)
571	TradeReportID	20	String	not set
	ClOrdIDInt	20	String	assign new unique ID for communication with NASD
11	ClOrdID	20	String	copy from ClOrdID(11) on inbound Trade Report
8200	TradeReportClass	1	String	copy from TradeReportClass on inbound Trade Report
54	Side	1	String	copy from Side(54) on inbound Trade Report
38	OrderQty	15	int	copy from OrderQty(38) on inbound Trade Report
44	Price	10	String	copy from Price(44) on inbound Trade Report
55	Symbol	8	String	copy from Symbol(55) on inbound Trade Report
8201	PriceOverride	1	String	copy from PriceOverride(8201) on inbound Trade Report
8215	TRFOperationsPriceOverride	1	String	copy from TRFOperationsPriceOverride (8215) on inbound Trade Report
	ContraFirmID	5	String	copy from ContraFirmID() on inbound Trade Report
	ContraFirmID2	5	String	not set
	ExecFirmID	5	String	copy from ExecFirmID() on inbound Trade Report
8208	TradeType	2	String	copy from TradeType (8208) on inbound Trade Report
8216	TradeThroughExemptFlag	1	String	copy from TradeThroughExemptFlag (8216) on inbound Trade Report
8217	TradeTypeCategory2	2	String	copy from TradeTypeCategory2 (8217) on inbound Trade Report
8218	TradeTypeCategory3	2	String	copy from TradeTypeCategory3 (8218) on inbound Trade Report
8219	TradeTypeCategory4	2	String	copy from TradeTypeCategory4 (8219) on inbound Trade Report
8209	ExecutionDate	8	String	copy from ExecutionDate(8209) on inbound Trade Report
8210	ExecutionTime	18	String	copy from ExecutionTime(8210) on inbound Trade Report
8211	SettlementDate	8	String	copy from SettlementDate(8211) on inbound Trade Report
37	OrderID	9	String	copy from OrderID(37) on inbound Trade Report
	OrderIDInt	9	String	assign new unique ID for internal tracking
8205	OwnerCategoryOwn	1	String	copy from OwnerCategoryOwn(8205) on inbound Trade Report
	OwnerCategoryOwn2	1	String	not set
8206	OwnerCategoryContra	1	String	copy from OwnerCategoryContra(8206) on inbound Trade Report
	OwnerCategoryContra2	1	String	not set

Tag	Field Name	Size	Type	Mapping Rule
8212	PublishIndicator	1	String	copy from PublishIndicator(8212) on inbound Trade Report
8202	ClearingIndicator	1	String	copy from ClearingIndicator(8202) on inbound Trade Report
	ClearingIndicator2	1	String	not set
8203	ShortSaleReason	1	String	copy from ShortSaleReason(8203) on inbound Trade Report
	ShortSaleReason2	1	String	not set
8204	IntermarketTrade	1	String	copy from IntermarketTrade(8204) on inbound Trade Report
	GiveUpParticipantContraFirmID	5	String	not set
	GiveUpParticipantContraFirmID2	5	String	not set
	PartyWithReportingObligationID	5	String	Copy from PartyWithReportingObligationID
	ClearingFirmID	5	String	copy from ClearingFirmID on inbound Trade Report
	ContraClearingFirmID	5	String	not set
	ContraClearingFirmID2	5	String	not set
	IsThreeParty	1	String	not set
58	Text	40	String	not set
<u>8220</u>	<u>Time Prepared</u>	<u>9</u>	<u>String</u>	<u>Copy from Time Prepared on inbound trade report</u>

4. TRF prints to tape



5. The TRF sends the customer acknowledgement back to the TRF Gateway

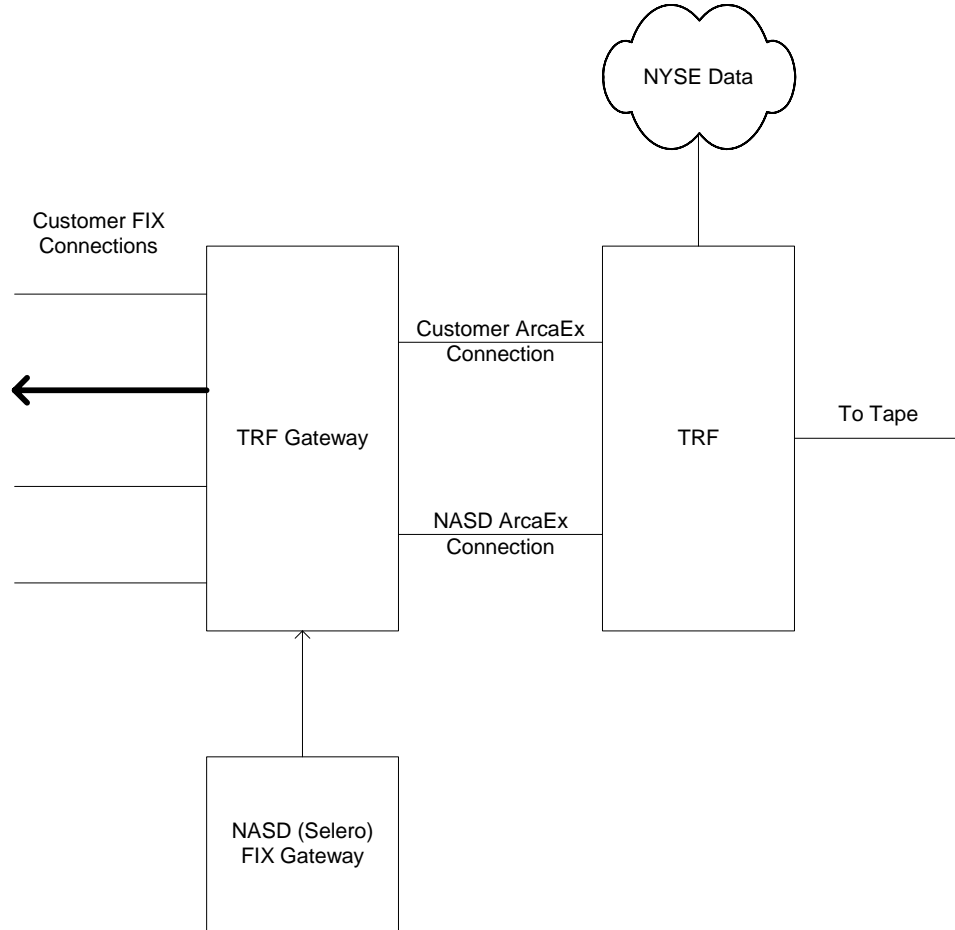


TRF ArcaEx Trade Report to TRF Gateway ArcaEx Trade Report

Tag	Field Name	Size	Type	Mapping Rule
35	MsgType	1	String	=R
50	SenderSubID	10	String	not set
57	TargetSubID	10	String	copy from SenderSubID(50) on inbound TradeReport
145	DeliverToLocationID	10	String	copy from OnBehalfOfCompID(144) on inbound TradeReport
144	OnBehalfOfLocationID	10	String	not set
487	TradeReportTransType	1	String	copy from TradeReportTransType(487)
571	TradeReportID	20	String	set to TradeReportID(571) on inbound message
	ClOrdIDInt	20	String	not set
11	ClOrdID	20	String	set to ClOrdID(11) of inbound message
8200	TradeReportClass	1	String	copy from TradeReportClass (8200)
54	Side	1	String	copy from Side(54)
38	OrderQty	15	int	copy from OrderQty(38)
44	Price	10	String	copy from Price(44)

Tag	Field Name	Size	Type	Mapping Rule
55	Symbol	8	String	copy from Symbol(55)
8201	PriceOverride	1	String	copy from PriceOverride(8201)
8215	TRFOperationsPriceOverride	1	String	copy from TRFOperationsPriceOverride(8215)
	ContraFirmID	5	String	copy from ContraFirmID()
	ContraFirmID2	5	String	not set
	ExecFirmID	5	String	copy from ExecFirmID()
8208	TradeType	2	String	copy from TradeType (8208)
8216	TradeThroughExemptFlag	1	String	copy from TradeThroughExemptFlag (8216)
8217	TradeTypeCategory2	2	String	copy from TradeTypeCategory2 (8217)
8218	TradeTypeCategory3	2	String	copy from TradeTypeCategory3 (8218)
8219	TradeTypeCategory4	2	String	copy from TradeTypeCategory4 (8219)
8209	ExecutionDate	8	String	copy from ExecutionDate(8209)
8210	ExecutionTime	18	String	copy from ExecutionTime(8210)
8211	SettlementDate	8	String	copy from SettlementDate(8211)
37	OrderID	9	String	lookup based on OrderIDInt()
	OrderIDInt	9	String	copy from OrderIDInt()
8205	OwnerCategoryOwn	1	String	copy from OwnerCategoryOwn(8205)
	OwnerCategoryOwn2	1	String	not set
8206	OwnerCategoryContra	1	String	copy from OwnerCategoryContra(8206)
	OwnerCategoryContra2	1	String	not set
8212	PublishIndicator	1	String	copy from PublishIndicator(8212)
8202	ClearingIndicator	1	String	copy from ClearingIndicator(8202)
	ClearingIndicator2	1	String	not set
8203	ShortSaleReason	1	String	copy from ShortSaleReason(8203)
	ShortSaleReason2	1	String	not set
8204	IntermarketTrade	1	String	copy from IntermarketTrade(8204)
	GiveUpParticipantContraFirmID	5	String	not set
	GiveUpParticipantContraFirmID2	5	String	not set
	PartyWithReportingObligationID	5	String	copy from PartyWithReportingObligation
	ClearingFirmID	5	String	copy from ClearingFirmID
	ContraClearingFirmID	5	String	not set
	ContraClearingFirmID2	5	String	not set
	IsThreeParty	1	String	not set
58	Text	40	String	not set

6. The TRF gateway sends the customer a FIX acknowledgement that their report was submitted.



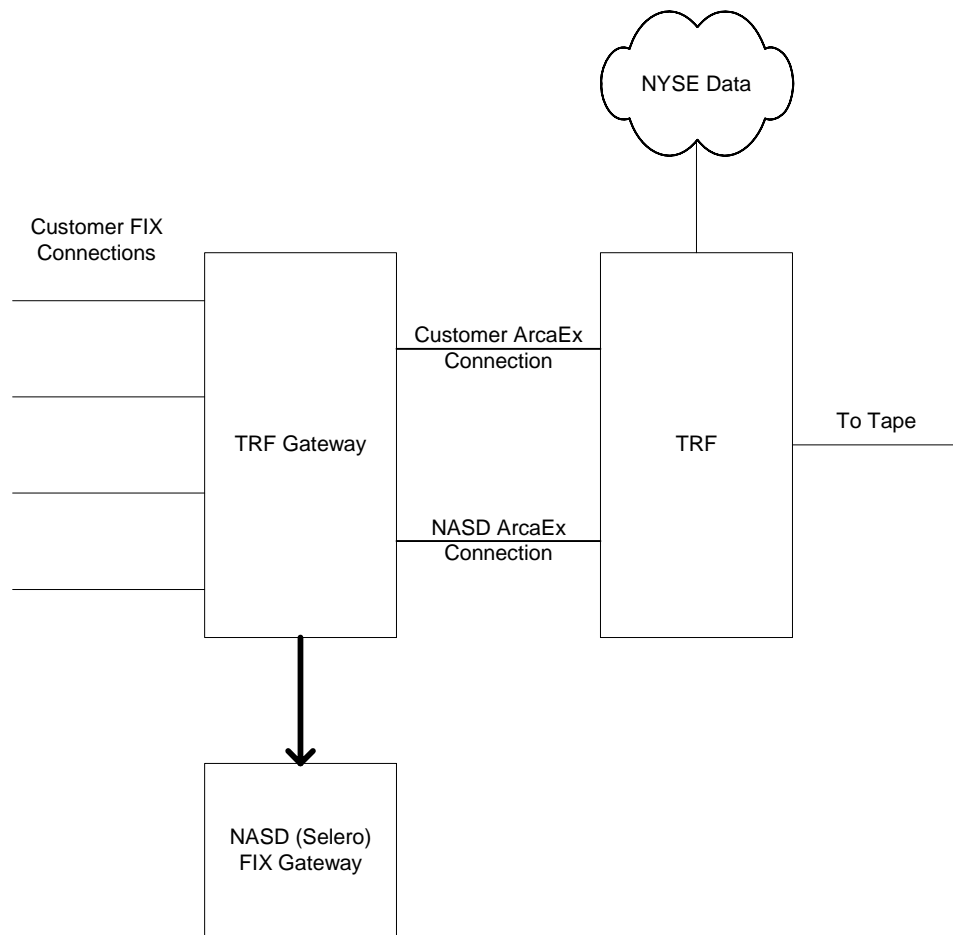
TRF Gateway ArcaEx Trade Report to Customer FIX Execution Report

Note: any fields not listed will not be sent back to customer

Tag	Field Name	Req'd	Mapping Rule
	Standard Header	Y	MsgType = 8
6	AvgPx	Y	copy from Price(44)
11	ClOrdID	N	= "NA"
14	CumQty	Y	copy from OrderQty(38)
17	ExecID	Y	= 0
20	ExecTransType	Y	= 0 (New)
37	OrderID	Y	copy from OrderID
39	OrdStatus	Y	= 0
54	Side	Y	copy from Side(54)
55	Symbol	Y	copy from Symbol(55)
65	SymbolSfx	N	Set based on Symbol(55)

Tag	Field Name	Req'd	Mapping Rule
58	Text	Y	not set
150	ExecType	Y	= 1 (Status)
151	LeavesQty	Y	= 0
571	TradeReportID	Y	copy from TradeReportID(571)
856	TradeReportType	Y	=0 (Submit)
939	TrdRptStatus	Y	= 0 (Accept)
	Standard Trailer	Y	

7. TRF Gateway sends FIX Trade Capture Report to NASD

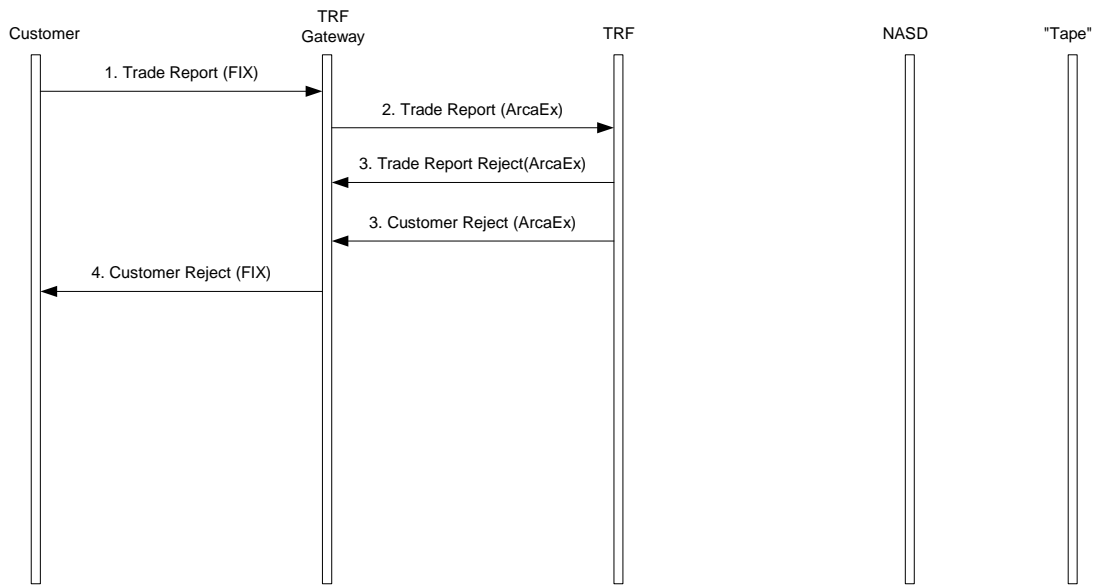


TRF Gateway ArcaEx Trade Report to NASD FIX Trade Capture Report

Tag	Field Name	Req'd	Mapping Rule	
	Standard Header	Y	MsgType = AE	
487	TradeReportTransType	Y	=1	
11	ClOrdID	Y	copy from ClOrdID()	
526	SecondaryClOrdID	N	copy from ClOrdIDInt()	
8200	TradeReportClass	Y	copy from TradeReportClass(8200)	
54	Side	Y	copy from Side(54)	
38	OrderQty	Y	copy from OrderQty(38)	
44	Price	Y	copy from Price(44)	
55	Symbol	Y	copy from Symbol(55), convert to CQS in single field if necessary	
8201	PriceOverride	Y	Copy from PriceOverride(8201)	
8215	TRFOperationsPriceOverride	N	copy from TRFOperationsPriceOverride(8215)	
453	NoPartyIDs	N	Based on the number of parties to be indicated	
→	448	PartyID	N	copy from ContraFirmID
→	452	PartyRole	N	= 17 (Contra Firm)
→	448	PartyID	N	copy from ExecFirmID
→	452	PartyRole	N	= 1 (Executing Firm)
→	448	PartyID	N	copy from ClearingFirmID, if present
→	452	PartyRole	N	= 4 (Clearing Firm)
→	448	PartyID	N	MPID of Party with Reporting Obligation
→	452	PartyRole	N	= 55 (Party with Reporting Obligation)
8208	TradeType	Y	copy from TradeType(8208)	
8216	TradeThroughExemptFlag	Y	copy from TradeThroughExemptFlag (8216)	
8217	TradeTypeCategory2	Y	copy from TradeTypeCategory2 (8217)	
8218	TradeTypeCategory3	Y	copy from TradeTypeCategory3 (8218)	
8219	TradeTypeCategory4	Y	copy from TradeTypeCategory4 (8219)	
8209	ExecutionDate	Y	copy from ExecutionDate(8209)	
8210	ExecutionTime	N	copy from ExecutionTime(8210)	
8211	SettlementDate	N	copy from SettlementDate(8211)	
37	OrderID	N	copy from OrderIDInt()	
8205	OwnerCategoryOwn	N	copy from OwnerCategoryOwn(8205)	
8206	OwnerCategoryContra	N	copy from OwnerCategoryContra(8206)	
8212	PublishIndicator	N	copy from PublishIndicator(8212)	
8202	ClearingIndicator	N	copy from ClearingIndicator(8202)	
8203	ShortSaleReason	N	copy from ShortSaleReason(8203)	
8204	IntermarketTrade	Y	copy from IntermarketTrade(8204)	
8220	Time Prepared	Y	Copy from TimePrepared(8220)	
	Standard Trailer	Y		

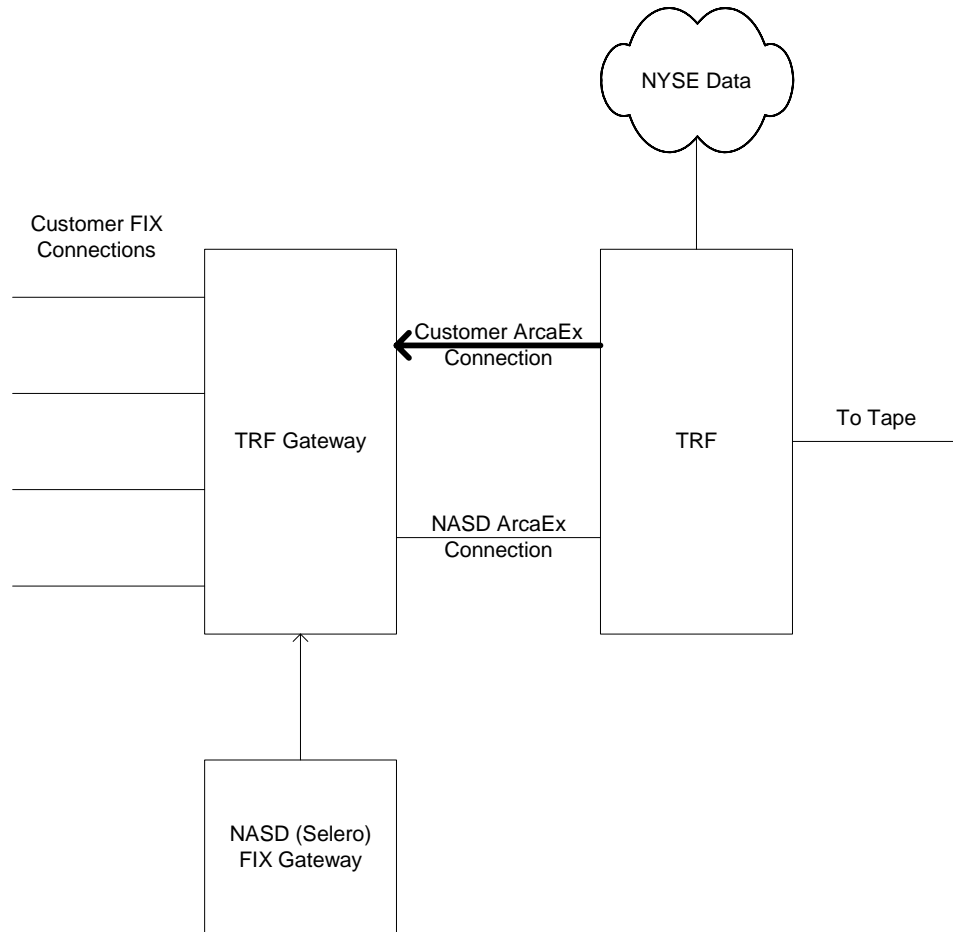
Tag	Field Name	Size	Type	Mapping Rule
8200	TradeReportClass	1	String	copy from TradeReportClass (8200)
54	Side	1	String	copy from Side(54)
38	OrderQty	15	int	copy from OrderQty(38)
44	Price	10	String	copy from Price(44)
55	Symbol	8	String	copy from Symbol(55) , convert Commstock to CQS if necessary
8201	PriceOverride	1	String	copy from PriceOverride(8201)
8215	TRFOperationsPriceOverride	1	String	copy from TRFOperationsPriceOverride(8215)
	ContraFirmID	5	String	copy from PartyID(448) in Parties group with PartyRole(452)=17
	ContraFirmID2	5	String	not set
	ExecFirmID	5	String	copy from PartyID(448) in Parties group with PartyRole(452)=1
8208	TradeType	2	String	copy from TradeType (8208)
8216	TradeThroughExemptFlag	1	String	copy from TradeThroughExemptFlag (8216)
8217	TradeTypeCategory2	2	String	copy from TradeTypeCategory2 (8217)
8218	TradeTypeCategory3	2	String	copy from TradeTypeCategory3 (8218)
8219	TradeTypeCategory4	2	String	copy from TradeTypeCategory4 (8219)
8209	ExecutionDate	8	String	copy from ExecutionDate(8209)
8210	ExecutionTime	18	String	copy from ExecutionTime(8210)
8211	SettlementDate	8	String	copy from SettlementDate(8211)
37	OrderID	9	String	not set
	OrderIDInt	9	String	copy from OrderID(37)
8205	OwnerCategoryOwn	1	String	copy from OwnerCategoryOwn(8205)
	OwnerCategoryOwn2	1	String	not set
8206	OwnerCategoryContra	1	String	copy from OwnerCategoryContra(8206)
	OwnerCategoryContra2	1	String	not set
8212	PublishIndicator	1	String	copy from PublishIndicator(8212)
8202	ClearingIndicator	1	String	copy from ClearingIndicator(8202)
	ClearingIndicator2	1	String	not set
8203	ShortSaleReason	1	String	copy from ShortSaleReason(8203)
	ShortSaleReason2	1	String	not set
8204	IntermarketTrade	1	String	copy from IntermarketTrade(8204)
	GiveUpParticipantContraFirmID	5	String	
	GiveUpParticipantContraFirmID2	5	String	
	PartyWithReportingObligationID	5	String	
	ClearingFirmID	5	String	copy from ClearingFirm
	ContraClearingFirmID	5	String	
	ContraClearingFirmID2	5	String	
	IsThreeParty	1	String	not set
58	Text	40	String	not set

Trade Report Submission Reject - Single Party



Steps 1 - 2 are the same as the previous normal submission case

3. TRF determines validation error has occurred and sends reject back to the TRF Gateway

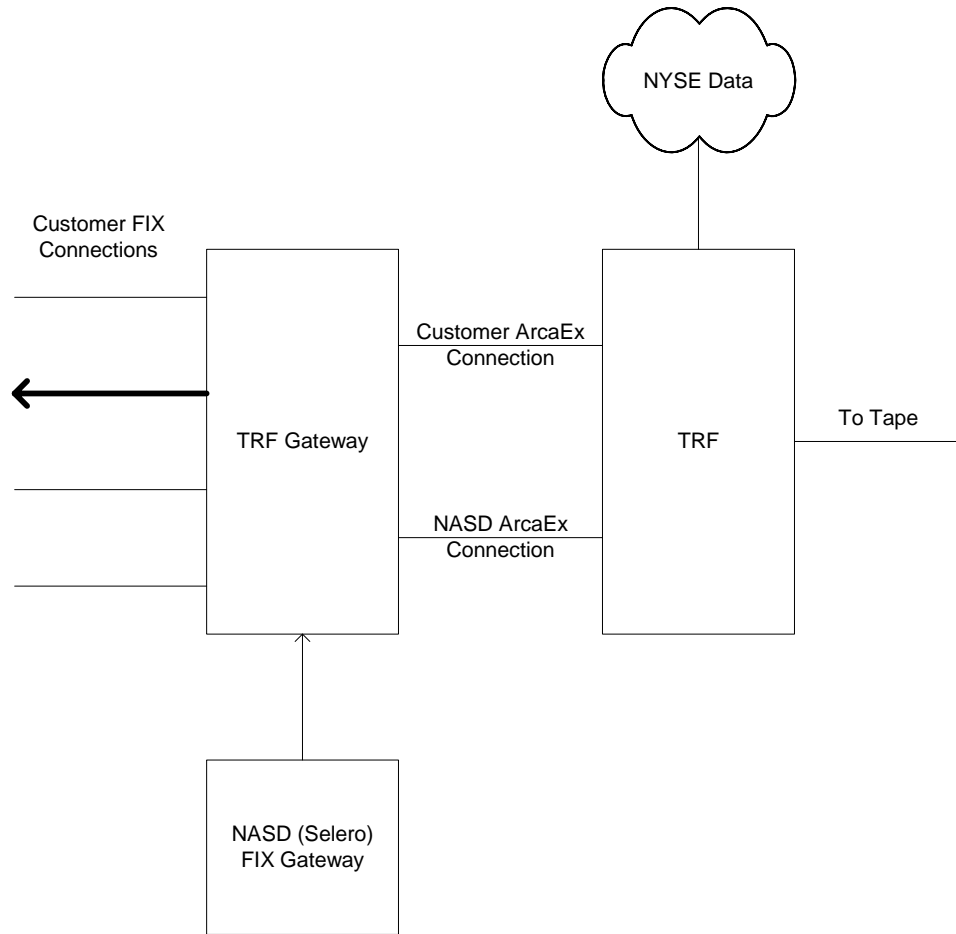


TRF ArcaEx Trade Report to TRF Gateway ArcaEx Trade Report

Tag	Field Name	Size	Type	Mapping Rule
35	MsgType	1	String	= R
50	SenderSubID	10	String	not set
57	TargetSubID	10	String	copy from SenderSubID(50) on inbound TradeReport
145	DeliverToLocationID	10	String	copy from OnBehalfOfCompID(144) on inbound TradeReport
144	OnBehalfOfLocationID	10	String	not set
487	TradeReportTransType	1	String	= 'J' (Reject)
571	TradeReportID	20	String	set to TradeReportID(571) on inbound message
	ClOrdIDInt	20	String	not set
11	ClOrdID	20	String	set to ClOrdID(11) of inbound message
8200	TradeReportClass	1	String	not set
54	Side	1	String	copy from Side(54)

Tag	Field Name	Size	Type	Mapping Rule
38	OrderQty	15	int	copy from OrderQty(38)
44	Price	10	String	copy from Price(44)
55	Symbol	8	String	copy from Symbol(55)
8201	PriceOverride	1	String	not set
8215	TRFOperationsPriceOverride	1	String	copy from TRFOperationsPriceOverride(8215)
	ContraFirmID	5	String	not set
	ContraFirmID2	5	String	not set
	ExecFirmID	5	String	not set
8208	TradeType	2	String	not set
8216	TradeThroughExemptFlag	1	String	copy from TradeThroughExemptFlag (8216)
8217	TradeTypeCategory2	2	String	copy from TradeTypeCategory2 (8217)
8218	TradeTypeCategory3	2	String	copy from TradeTypeCategory3 (8218)
8219	TradeTypeCategory4	2	String	copy from TradeTypeCategory4 (8219)
8209	ExecutionDate	8	String	not set
8210	ExecutionTime	18	String	not set
8211	SettlementDate	8	String	not set
37	OrderID	9	String	not set
	OrderIDInt	9	String	not set
8205	OwnerCategoryOwn	1	String	not set
	OwnerCategoryOwn2	1	String	not set
8206	OwnerCategoryContra	1	String	not set
	OwnerCategoryContra2	1	String	not set
8212	PublishIndicator	1	String	not set
8202	ClearingIndicator	1	String	not set
	ClearingIndicator2	1	String	not set
8203	ShortSaleReason	1	String	not set
	ShortSaleReason2	1	String	not set
8204	IntermarketTrade	1	String	not set
	GiveUpParticipantContraFirmID	5	String	not set
	GiveUpParticipantContraFirmID2	5	String	not set
	PartyWithReportingObligationID	5	String	not set
	ClearingFirmID	5	String	not set
	ContraClearingFirmID	5	String	not set
	ContraClearingFirmID2	5	String	not set
	IsThreeParty	1	String	not set
58	Text	20	String	text describing failure

4. The TRF Gateway sends the customer a FIX reject to indicate their trade report submission was rejected



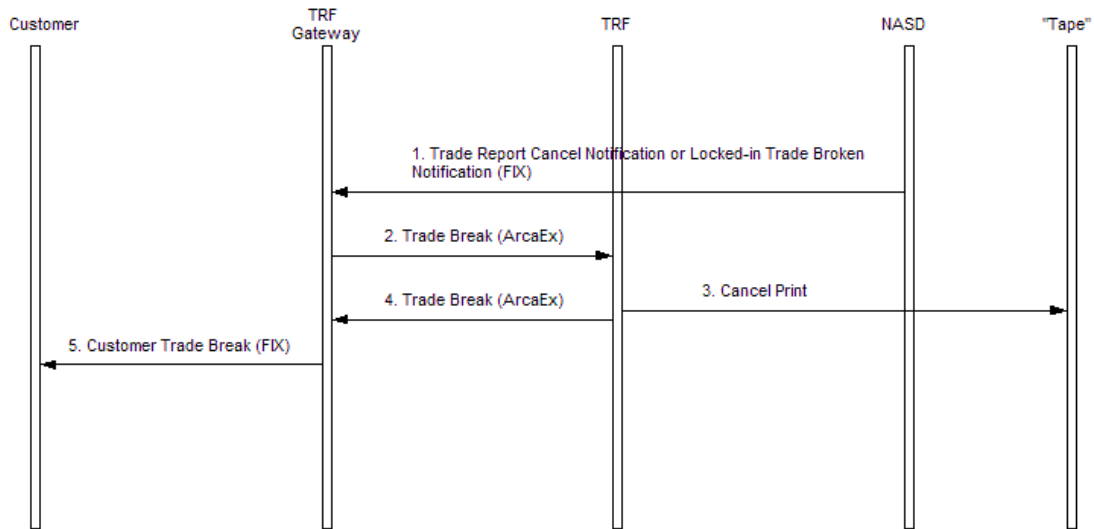
Execution Report(8)

Tag	Field Name	Req'd	Mapping Rule
	Standard Header	Y	MsgType = 8
856	TradeReportType	Y	Used to identify message type. When receiving a reject, the only valid value is: 8 = Error
939	TrdRptStatus	Y	= 1 (Rejected)
571	TradeReportID	Y	copy from TradeReportID(571)
6	AvgPx	Y	= 0
11	ClOrdID	N	= "NA"
14	CumQty	Y	= 0
17	ExecID	Y	= 0
20	ExecTransType	Y	= 0 (New)
37	OrderID	Y	= 0
39	OrdStatus	Y	= 0
54	Side	Y	copy from Side(54)

Tag	Field Name	Req'd	Mapping Rule
55	Symbol	Y	copy from Symbol(55)
65	SymbolSfx	N	Set based on Symbol(55)
58	Text	N	copy from Text(55)
150	ExecType	Y	= 1 (Status)
151	LeavesQty	Y	= 0
751	TradeReportRejectReason	Y	= 99 (Other)
	Standard Trailer	Y	

Trade Report Submission Unsolicited Break - Single Party

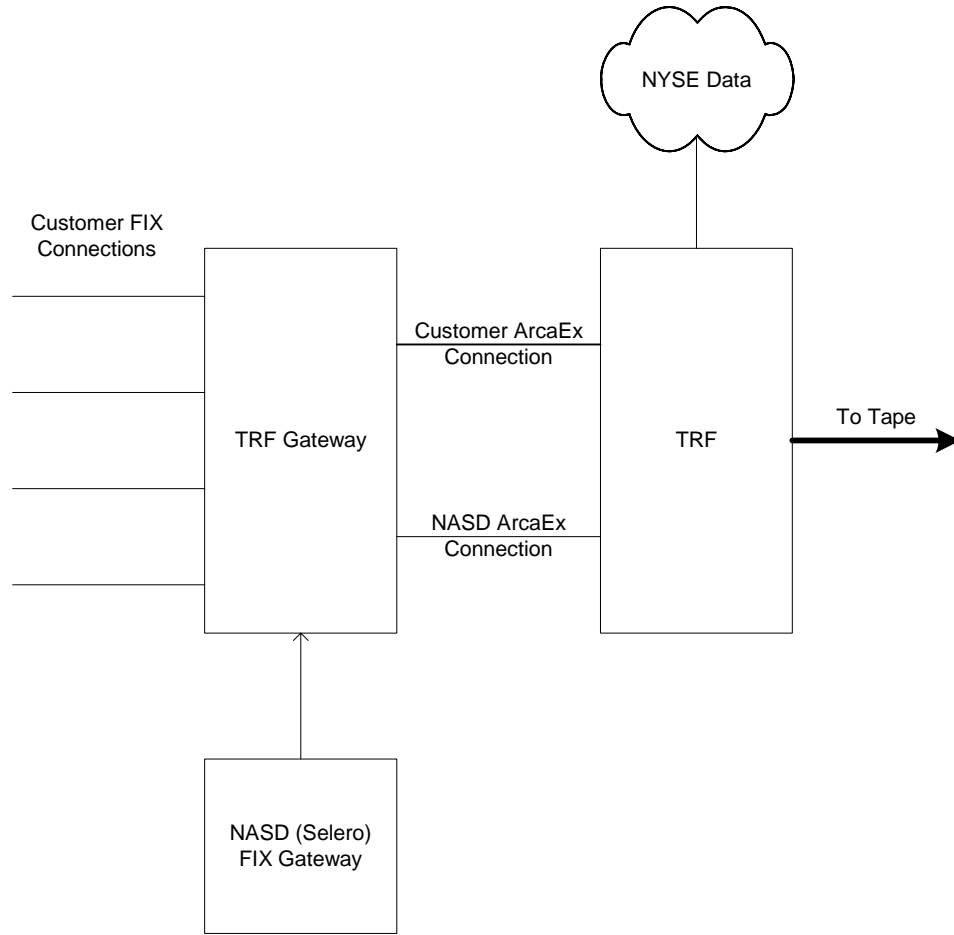
Note: The first 9 steps are the same as the “Normal submission”. Then if NYSE Arca calls NASD operations to break a trade report, NASD will send a break message to the TRF Gateway that will forward the break to TRF. If TRF operations manually accepts the break, it will be sent to the customer.



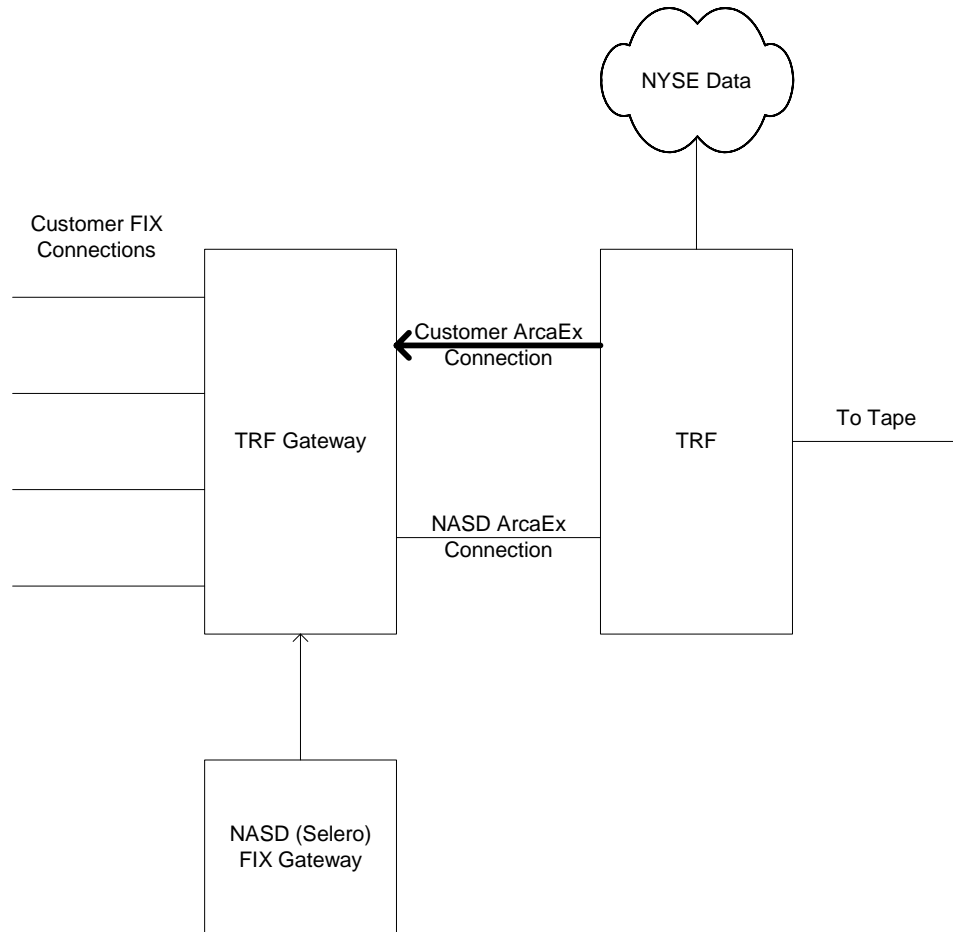
1-2. NASD sends a FIX trade capture “Trade Report Cancel Notification” or “Locked in Trade Broken Notification” and the TRF Gateway sends a trade break TRF

Tag	Field Name	Size	Type	Mapping Rule
8215	TRFOperationsPriceOverride	1	String	copy from TRFOperationsPriceOverride(8215)
	ContraFirmID	5	String	copy from PartyID(448) in Parties group with PartyRole(452)=17
	ContraFirmID2	5	String	not set
	ExecFirmID	5	String	copy from PartyID(448) in Parties group with PartyRole(452)=1
8208	TradeType	2	String	copy from TradeType (8208)
8209	ExecutionDate	8	String	copy from ExecutionDate(8209)
8210	ExecutionTime	18	String	copy from ExecutionTime(8210)
8211	SettlementDate	8	String	copy from SettlementDate(8211)
37	OrderID	9	String	not set
	OrderIDInt	9	String	copy from OrderID(37)
8205	OwnerCategoryOwn	1	String	copy from OwnerCategoryOwn(8205)
	OwnerCategoryOwn2	1	String	not set
8206	OwnerCategoryContra	1	String	copy from OwnerCategoryContra(8206)
	OwnerCategoryContra2	1	String	not set
8212	PublishIndicator	1	String	copy from PublishIndicator(8212)
8202	ClearingIndicator	1	String	copy from ClearingIndicator(8202)
	ClearingIndicator2	1	String	not set
8203	ShortSaleReason	1	String	copy from ShortSaleReason(8203)
	ShortSaleReason2	1	String	not set
8204	IntermarketTrade	1	String	copy from IntermarketTrade(8204)
	GiveUpParticipantContraFirmID	5	String	not set
	GiveUpParticipantContraFirmID2	5	String	not set
	PartyWithReportingObligationID	5	String	not set
	ClearingFirmID	5	String	not set
	ContraClearingFirmID	5	String	not set
	ContraClearingFirmID2	5	String	not set
	IsThreeParty	1	String	not set
58	Text	40	String	copy from Text(58), if present

3. TRF then cancels the print to the tape.



4. TRF operations manually accepts break, then TRF sends a trade break to the TRF gateway with translated ID(s).

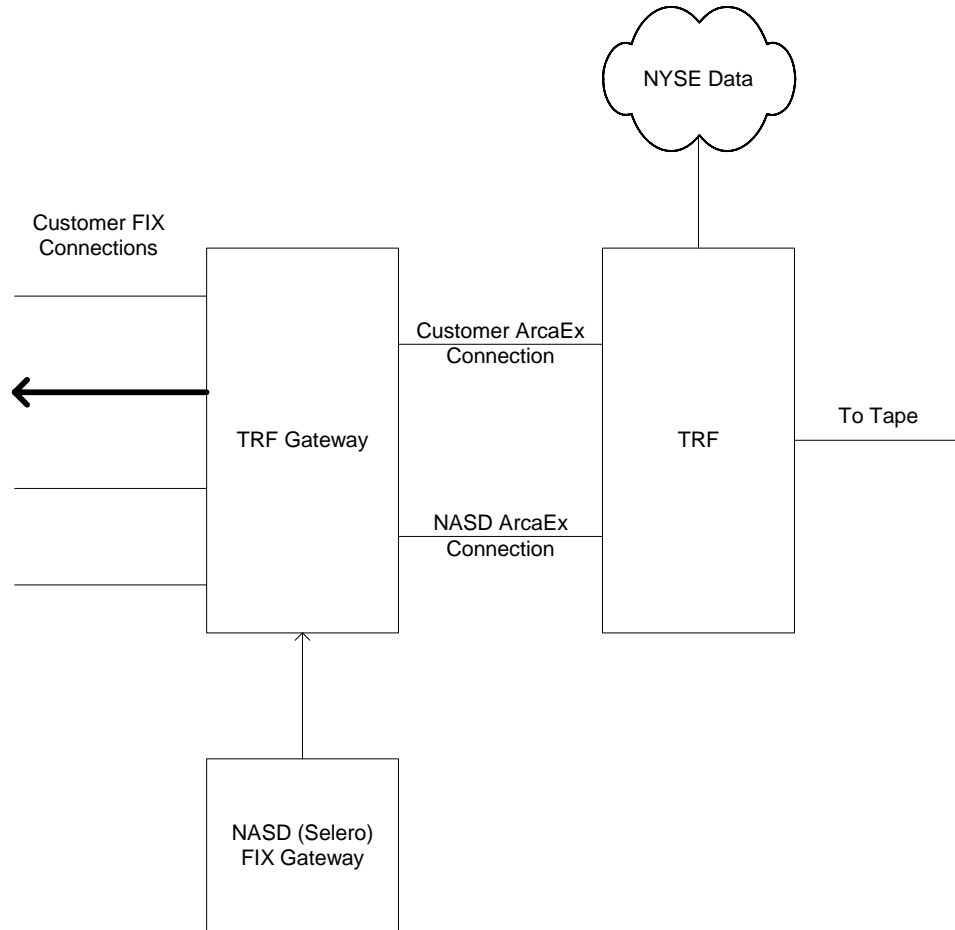


TRF ArcaEx Trade Report to TRF Gateway ArcaEx Trade Report

Tag	Field Name	Size	Type	Mapping Rule
35	MsgType	1	String	= R
50	SenderSubID	10	String	not set
57	TargetSubID	10	String	copy from SenderSubID(50) on inbound TradeReport
145	DeliverToLocationID	10	String	copy from OnBehalfOfCompID(144) on inbound TradeReport
144	OnBehalfOfLocationID	10	String	not set
487	TradeReportTransType	1	String	copy from TradeReportTransType(487)
571	TradeReportID	20	String	set to TradeReportID(571) on inbound message
	ClOrdIDInt	20	String	not set
11	ClOrdID	20	String	set to ClOrdID(11) of inbound message
8200	TradeReportClass	1	String	copy from TradeReportClass (8200)

Tag	Field Name	Size	Type	Mapping Rule
54	Side	1	String	copy from Side(54)
38	OrderQty	15	int	copy from OrderQty(38)
44	Price	10	String	copy from Price(44)
55	Symbol	8	String	copy from Symbol(55)
8201	PriceOverride	1	String	not set
8215	TRFOperationsPriceOverride	1	String	not set
	ContraFirmID	5	String	not set
	ContraFirmID2	5	String	not set
	ExecFirmID	5	String	not set
8208	TradeType	2	String	copy from TradeType (8208)
8216	TradeThroughExemptFlag	1	String	not set
8217	TradeTypeCategory2	2	String	not set
8218	TradeTypeCategory3	2	String	not set
8219	TradeTypeCategory4	2	String	not set
8209	ExecutionDate	8	String	not set
8210	ExecutionTime	18	String	not set
8211	SettlementDate	8	String	not set
37	OrderID	9	String	lookup based on OrderIDInt
	OrderIDInt	9	String	copy from OrderIDInt()
8205	OwnerCategoryOwn	1	String	not set
	OwnerCategoryOwn2	1	String	not set
8206	OwnerCategoryContra	1	String	not set
	OwnerCategoryContra2	1	String	not set
8212	PublishIndicator	1	String	not set
8202	ClearingIndicator	1	String	not set
	ClearingIndicator2	1	String	not set
8203	ShortSaleReason	1	String	not set
	ShortSaleReason2	1	String	not set
8204	IntermarketTrade	1	String	not set
	GiveUpParticipantContraFirmID	5	String	not set
	GiveUpParticipantContraFirmID2	5	String	not set
	PartyWithReportingObligationID	5	String	not set
	ClearingFirmID	5	String	not set
	ContraClearingFirmID	5	String	not set
	ContraClearingFirmID2	5	String	not set
	IsThreeParty	1	String	not set
58	Text	40	String	copy from Text(58), if set

5. The TRF gateway sends a FIX trade break message to the customer indicating break.



Note: any fields not listed will not be sent back to customer

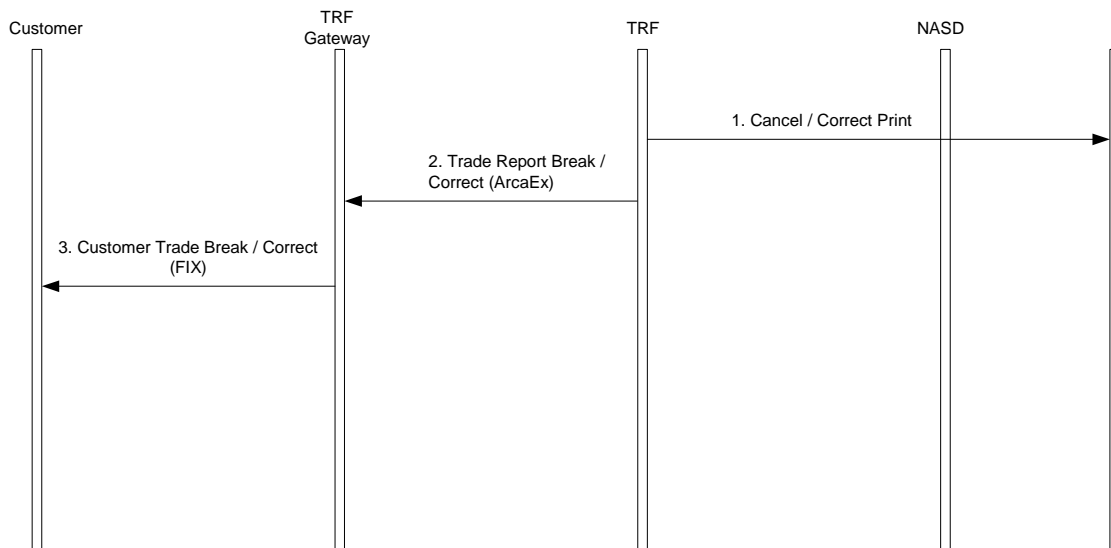
TRF Gateway ArcaEx Trade Report to Customer FIX Execution Report

Tag	Field Name	Req'd	Mapping Rule
	Standard Header	Y	MsgType = 8
6	AvgPx	Y	copy from Price(44)
11	ClOrdID	N	= "NA"
14	CumQty	Y	copy from OrderQty(38)
17	ExecID	Y	= 0
20	ExecTransType	Y	= 0 (New)
37	OrderID	Y	copy from OrderID
39	OrdStatus	Y	= 0
54	Side	Y	copy from Side(54)
55	Symbol	Y	copy from Symbol(55)
65	SymbolSfx	N	Set based on Symbol(55)

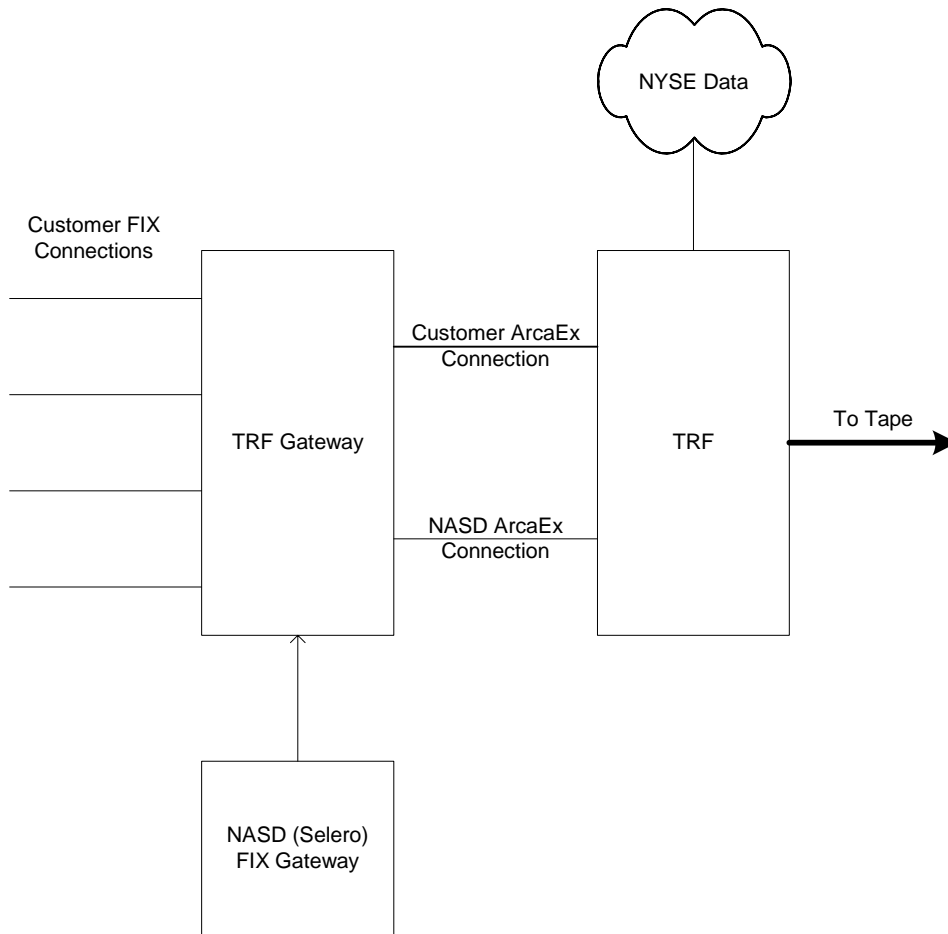
Tag	Field Name	Req'd	Mapping Rule
58	Text	Y	= TCAN
150	ExecType	Y	= I (Status)
151	LeavesQty	Y	= 0
571	TradeReportID	Y	copy from TradeReportID(571)
577	ClearingInstruction	Y	map from ClearingIndicator(8202)
856	TradeReportType	Y	map from TradeReportTransType if S (Cancel) = 6 if K (Break) or B (Bust) = 7
939	TrdRptStatus	Y	= 0
	Standard Trailer	Y	

Trade Report Submission TRF Operations Bust - Single Party

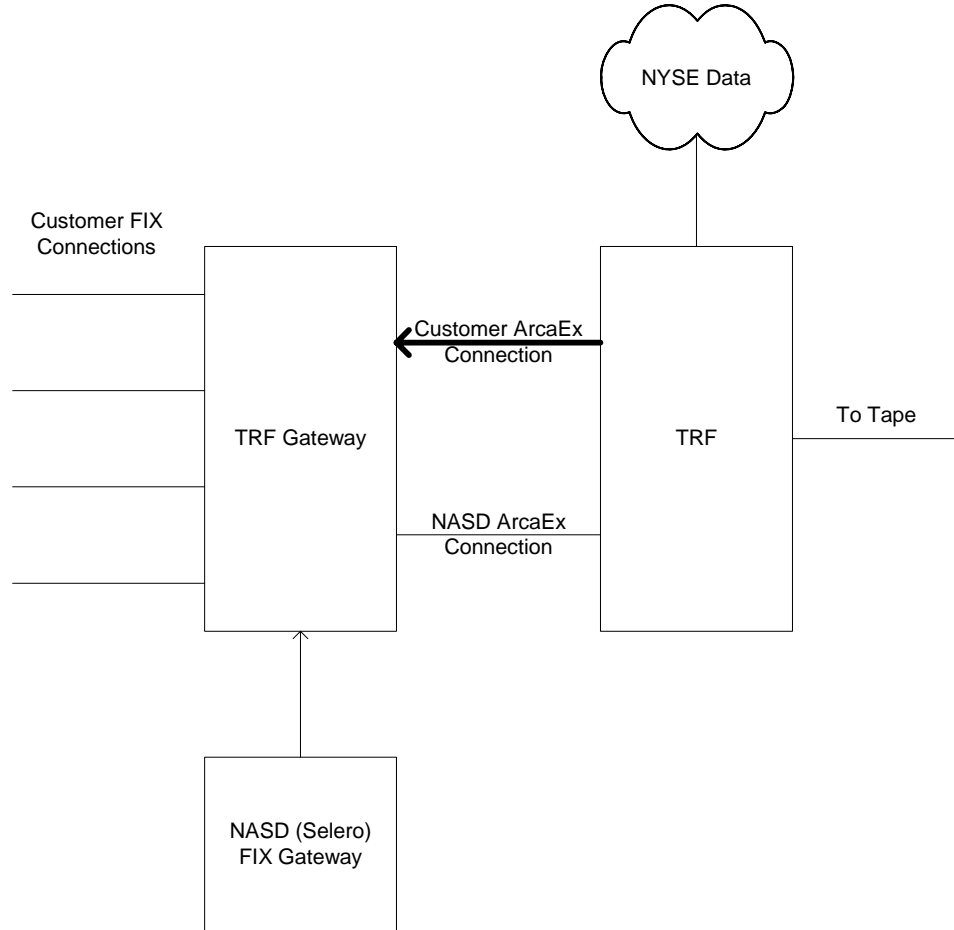
Note: The first 9 steps are the same as the "Normal submission". Then if TRF operations execute a trade report bust, the following additional steps will occur:



1. TRF cancels the print to the tape.



2. TRF sends a trade break to the TRF gateway with translated ID(s).

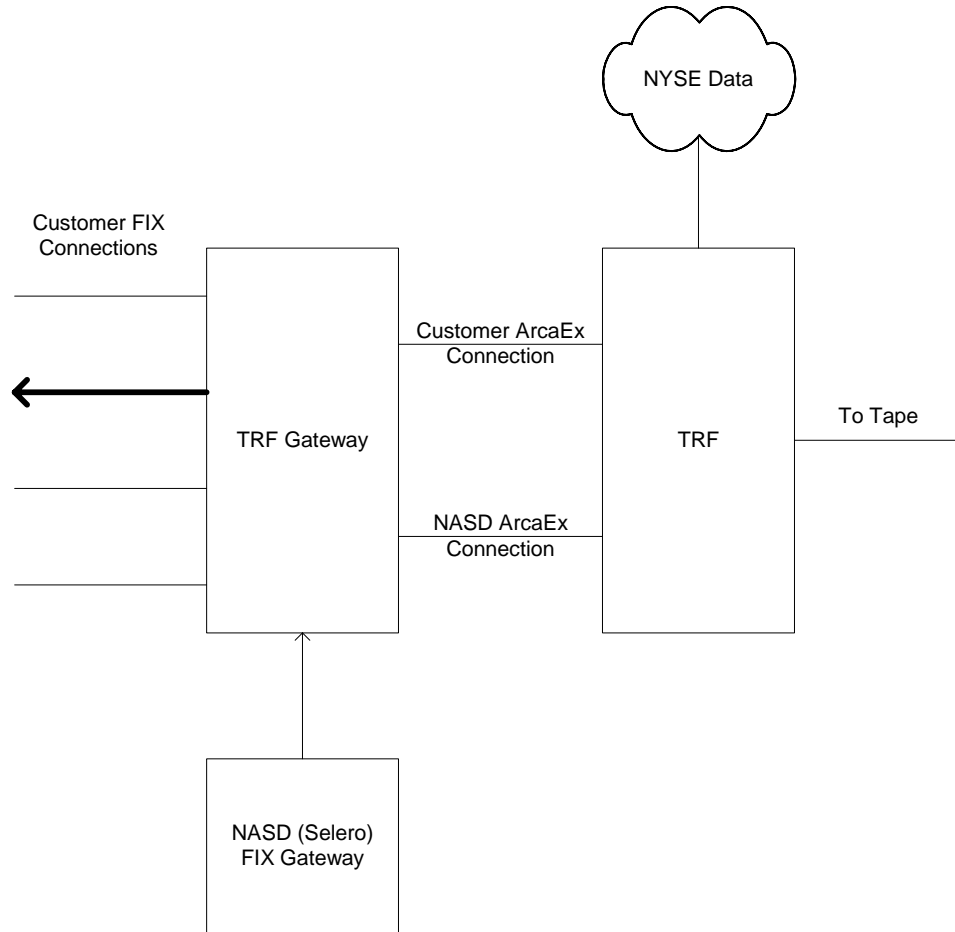


TRF ArcaEx Trade Report to TRF Gateway ArcaEx Trade Report

Tag	Field Name	Size	Type	Mapping Rule*
35	MsgType	1	String	= R
50	SenderSubID	10	String	not set
57	TargetSubID	10	String	copy from SenderSubID(50) on inbound TradeReport
145	DeliverToLocationID	10	String	copy from OnBehalfOfCompID(144) on inbound TradeReport
144	OnBehalfOfLocationID	10	String	not set
487	TradeReportTransType	1	String	= 'B' (Bust)
571	TradeReportID	20	String	set to TradeReportID(571) on inbound message
	ClOrdIDInt	20	String	not set
11	ClOrdID	20	String	set to ClOrdID(11) of inbound message
8200	TradeReportClass	1	String	copy from TradeReportClass (8200)
54	Side	1	String	copy from Side(54) *
38	OrderQty	15	int	copy from OrderQty(38)*

Tag	Field Name	Size	Type	Mapping Rule*
44	Price	10	String	copy from Price(44) *
55	Symbol	8	String	copy from Symbol(55)*
8201	PriceOverride	1	String	not set
8215	TRFOperationsPriceOverride	1	String	not set
	ContraFirmID	5	String	not set
	ContraFirmID2	5	String	not set
	ExecFirmID	5	String	not set
8208	TradeType	2	String	copy from TradeType (8208)
8216	TradeThroughExemptFlag	1	String	not set
8217	TradeTypeCategory2	2	String	not set
8218	TradeTypeCategory3	2	String	not set
8219	TradeTypeCategory4	2	String	not set
8209	ExecutionDate	8	String	not set
8210	ExecutionTime	18	String	not set
8211	SettlementDate	8	String	not set
37	OrderID	9	String	lookup based on OrderIDInt
	OrderIDInt	9	String	copy from OrderIDInt()
8205	OwnerCategoryOwn	1	String	not set
	OwnerCategoryOwn2	1	String	not set
8206	OwnerCategoryContra	1	String	not set
	OwnerCategoryContra2	1	String	not set
8212	PublishIndicator	1	String	not set
8202	ClearingIndicator	1	String	not set
	ClearingIndicator2	1	String	not set
8203	ShortSaleReason	1	String	not set
	ShortSaleReason2	1	String	not set
8204	IntermarketTrade	1	String	not set
	GiveUpParticipantContraFirmID	5	String	not set
	GiveUpParticipantContraFirmID2	5	String	not set
	PartyWithReportingObligationID	5	String	not set
	ClearingFirmID	5	String	not set
	ContraClearingFirmID	5	String	not set
	ContraClearingFirmID2	5	String	not set
	IsThreeParty	1	String	not set
58	Text	40	String	not set

3. The TRF gateway sends a FIX trade break message to the customer indicating break.



Note: any fields not listed will not be sent back to customer

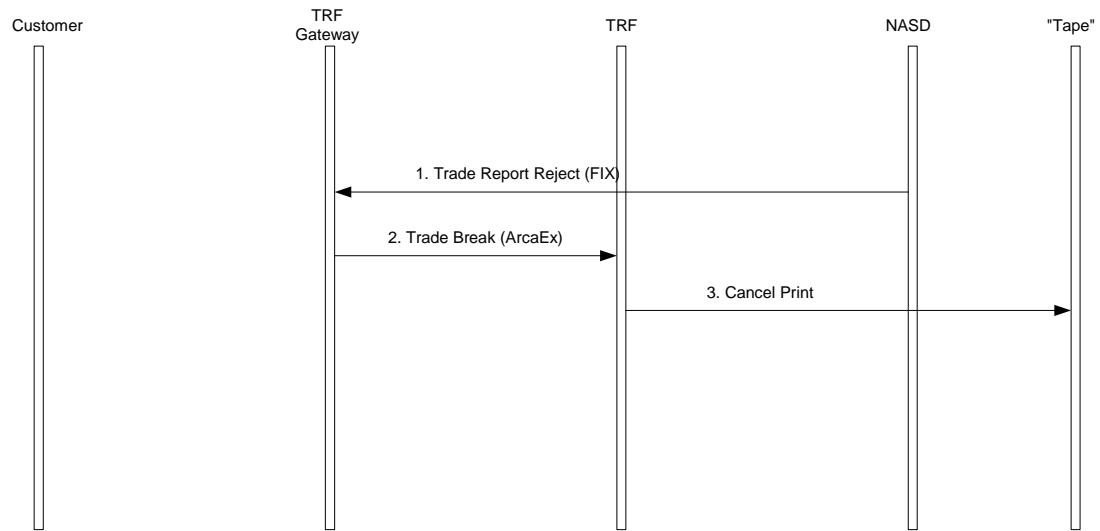
TRF Gateway ArcaEx Trade Report to Customer FIX Execution Report

Tag	Field Name	Req'd	Mapping Rule
	Standard Header	Y	MsgType = 8
6	AvgPx	Y	copy from Price(44)
11	ClOrdID	N	= "NA"
14	CumQty	Y	copy from OrderQty(38)
17	ExecID	Y	= 0
20	ExecTransType	Y	= 0 (New)
37	OrderID	Y	copy from OrderID
39	OrdStatus	Y	= 0
54	Side	Y	copy from Side(54)
55	Symbol	Y	copy from Symbol(55)
56	SymbolSfx	N	Set based on Symbol(55)

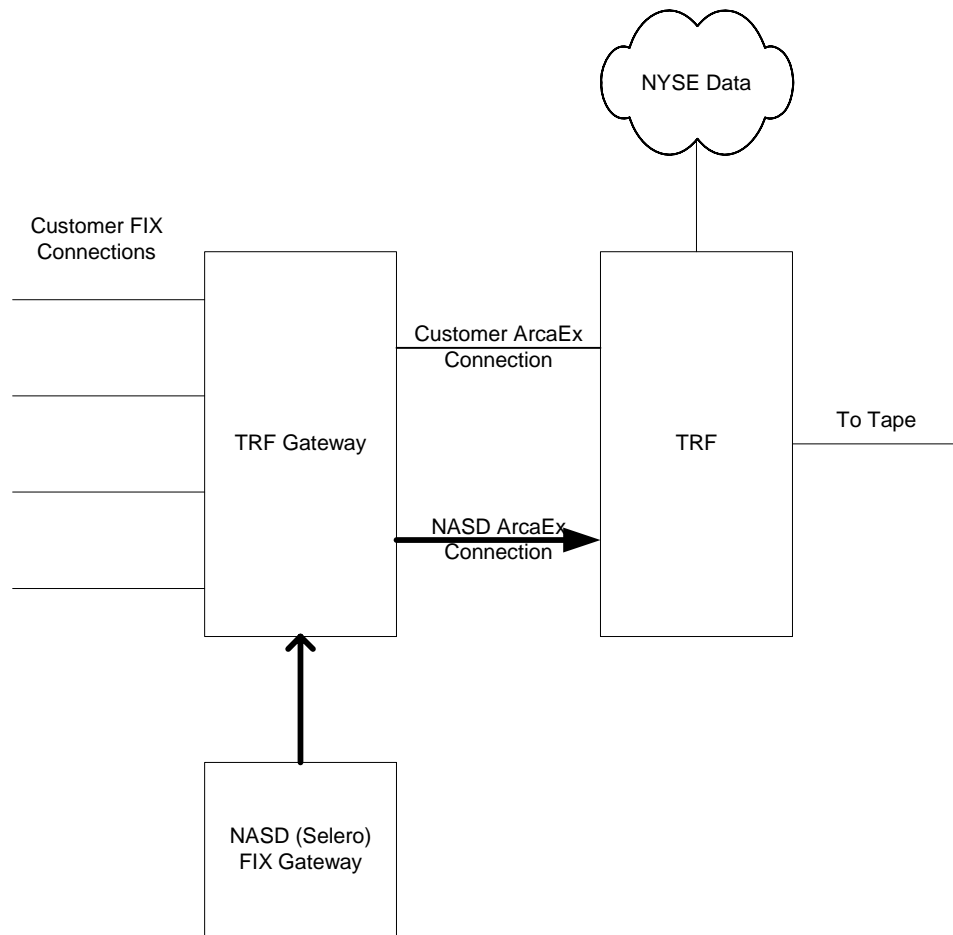
Tag	Field Name	Req'd	Mapping Rule
58	Text	Y	If (TradeReportTransType) is {S, K, B} = TCAN
150	ExecType	Y	= I (Status)
151	LeavesQty	Y	= 0
571	TradeReportID	Y	copy from TradeReportID(571)
577	ClearingInstruction	Y	map from ClearingIndicator(8202)
856	TradeReportType	Y	map from TradeReportTransType if S (Cancel) = 6 if K (Break) or B (Bust) = 7
939	TrdRptStatus	Y	= 0
	Standard Trailer	Y	

Trade Report Submission NASD Reject - Single Party

Note: The first 7 steps are the same as the "Normal submission". Then, a reject is received from NASD for the TradeCaptureReport submission; it will be handled as an unsolicited break. Operations will have the option of manually sending the break to the customer, which will operate the same as the scenario "Trade Report Submission TRF Operations Bust - Single Party"



1-2. NASD sends a FIX trade capture "Trade Report Reject" and the TRF Gateway sends a trade reject to TRF



NASD FIX Trade Capture Report to TRF ArcaEx Trade Report

Tag	Field Name	Size	Type	Mapping Rule
35	MsgType	1	String	= R
50	SenderSubID	10	String	not set
57	TargetSubID	10	String	not set
145	DeliverToLocationID	10	String	not set
144	OnBehalfOfLocationID	10	String	not set
487	TradeReportTransType	1	String	= J (Reject)
571	TradeReportID	20	String	copy from TradeReportID(571)
	ClOrdIDInt	20	String	copy from SecondaryClOrdID(526)
11	ClOrdID	20	String	copy from ClOrdID(11)
8200	TradeReportClass	1	String	not set
54	Side	1	String	copy from Side(54)
38	OrderQty	15	int	copy from OrderQty(38)
44	Price	10	String	copy from Price(44)
55	Symbol	8	String	copy from Symbol(55) , convert from CQS to Commstock if necessary
8201	PriceOverride	1	String	not set
8215	TRFOperationsPriceOverride	1	String	copy from TRFOperationsPriceOverride(8215)
	ContraFirmID	5	String	not set

Tag	Field Name	Size	Type	Mapping Rule
	ContraFirmID2	5	String	not set
	ExecFirmID	5	String	not set
8208	TradeType	2	String	not set
8216	TradeThroughExemptFlag	1	String	copy from TradeThroughExemptFlag (8216)
8217	TradeTypeCategory2	2	String	copy from TradeTypeCategory2 (8217)
8218	TradeTypeCategory3	2	String	copy from TradeTypeCategory3 (8218)
8219	TradeTypeCategory4	2	String	copy from TradeTypeCategory4 (8219)
8209	ExecutionDate	8	String	not set
8210	ExecutionTime	18	String	not set
8211	SettlementDate	8	String	not set
37	OrderID	9	String	not set
	OrderIDInt	9	String	not set
8205	OwnerCategoryOwn	1	String	not set
	OwnerCategoryOwn2	1	String	not set
8206	OwnerCategoryContra	1	String	not set
	OwnerCategoryContra2	1	String	not set
8212	PublishIndicator	1	String	not set
8202	ClearingIndicator	1	String	not set
	ClearingIndicator2	1	String	not set
8203	ShortSaleReason	1	String	not set
	ShortSaleReason2	1	String	not set
8204	IntermarketTrade	1	String	not set
	GiveUpParticipantContraFirmID	5	String	not set
	GiveUpParticipantContraFirmID2	5	String	not set
	PartyWithReportingObligationID	5	String	not set
	ClearingFirmID	5	String	not set
	ContraClearingFirmID	5	String	not set
	ContraClearingFirmID2	5	String	not set
	IsThreeParty	1	String	not set
58	Text	40	String	copy from Text(58)

3. TRF then cancels the print to the tape.

