Chapter 1

All communication takes place locally as pibridge server and client are designed to run on the same machine. All structures mentioned below have pragma pack#1. You need not worry about BigEndian or LittleEndian machines as server and client both run on the same machine.

Message Codes

	MSG Code	Packet Source	Packet Destination	Remarks
NEW_ORDER	101	CLIENT	SERVER	Header Packet
ORDER_CONFIRMED	102	SERVER	CLIENT	Header + Order Response Packet
ORDER_REJECTED	103	SERVER	CLIENT	Header + Order Response Packet
MODIFY_ORDER	201	CLIENT	SERVER	Header Packet
MODIFY_CONFIRMED	202	SERVER	CLIENT	Header + Order Response Packet
MODIFY_REJECTED	203	SERVER	CLIENT	Header + Order Response Packet
CANCEL_ORDER	301	CLIENT	SERVER	Header
CANCEL_REJECTED	302	SERVER	CLIENT	Header + Order Response Packet
CANCEL_CONFIRMED	303	SERVER	CLIENT	Header + Order Response Packet
EQHOLDINGS_REQUEST	401	CLIENT	SERVER	Header Packet
EQHOLDINGS_DWLD_START	402	SERVER	CLIENT	Header Packet
EQHOLDINGS_NOTIFICATION	403	SERVER	CLIENT	Header + EQ Position Response Packet
EQHOLDINGS_DWLD_END	404	SERVER	CLIENT	Header Packet
FOPOSITION_REQUEST	501	CLIENT	SERVER	Header Packet
FOPOSITION_DWLD_START	502	SERVER	CLIENT	Header Packet
FOPOSITION_NOTIFICATION	503	SERVER	CLIENT	Header + FO Response Packet
FOPOSITION_DWLD_END	504	SERVER	CLIENT	Header Packet
TRADE_DWLD_REQUEST	601	CLIENT	SERVER	Header Packet
TRADE_DWLD_START	602	SERVER	CLIENT	Header Packet
TRADE_NOTIFICATION	603	SERVER	CLIENT	Header + Order Response Packet
TRADE_DWLD_END	604	SERVER	CLIENT	Header Packet
PENDING_DWLD_REQUEST	701	CLIENT	SERVER	Header Packet
PENDING_DWLD_START	702	SERVER	CLIENT	Header Packet
PENDING_NOTIFICATION	703	SERVER	CLIENT	Header + Order Response Packet
PENDING_DWLD_END	704	SERVER	CLIENT	Header Packet
CASH_POS_REQUEST	801	CLIENT	SERVER	Header Packet
CASH_POS_RESPONSE	802	SERVER	CLIENT	Header+ Cash Position Response Packet
CASH_POS_END	803	SERVER	CLIENT	Header Packet
ERROR_RES_NOTIFICATION	999	SERVER	CLIENT	Header Packet

Data structures

Request/Response Header

Position	Size	Data type	Description	Remarks
0	2	Short	Checksum	Value should be 0XFF00
2	2	Short	Length	
4	2	Short	Message code	**Message Codes**
6	4	Int	Error code	
10	4	Int	Timestamp	

Order (Request/Response) Packet or Trade Response or Pending Orders Response

Position	Size	Data type	Description	Remarks	Required
0	14	Header	Header		Yes
14	10	Char[]	Exchange	Correct values are 'BFO', 'BSE', 'CDS', 'MCX', 'NSE', 'NFO'	Yes
24	64	Char[]	Unique trading symbol		Yes
88	20	Char[]	Pi Order ID		No (this is populated in Order Response)
108	10	Char[]	Client Order ID	This order id is provided by client.	Yes
118	10	Char[]	Strategy name	Client can also provide a strategy name to order.	Yes
128	2	Short	Order side	Allowed values 1 or 2 for Buy and Sell	Yes
130	4	Int	Initial Quantity	Valid only if you are firing new order	Yes
134	4	Int	Disclosed Quantity		Yes
138	4	Int	Remaining Quantity		Yes
142	8	Double	Limit Price	In case of market order this should be 0	Yes
150	8	Double	Trigger Price	Non zero values in case of SL, SL-M orders	Yes
158	8	Double	Total Traded Value		No
166	8	Double	Last Traded Price		No
174	8	Double	Average Traded Price		No (this is populated in Order Response)
182	4	Int	Traded Qty		No(this is populated in Order Response)

186	4	Int	Last Trade qty		No (this is populated in Order Response)
190	12	Char[]	Order type	Valid values are 'LIMIT', 'L', 'MARKET', 'MKT', 'SL', 'SL-M'	Yes
202	12	Char[]	Product type	Valid values are 'NRML', 'CNC', 'MIS'	Yes
214	12	Char[]	Account/Client Code		Yes
226	5	Char[]	Validity	Valid values 'DAY', 'IOC'	Yes
231	4	Int	Order Status		No
235	4	Int	Entry Time		No
239	4	Int	Exec Time		No

Cancel Order Request

Position	Size	Data type	Description	Value	Required
0	14	Header	Header		Yes
14	229	Order	Order	Pi Order ID (compulsory) rest fields not required	Yes

Modify Order Request

Position	Size	Data type	Description	Value	Required
0	14	Header	Header		Yes
14	229	Order	Order	Pi Order ID (compulsory) Limit Price (0 if not required to change) Initial Quantity (0 if not required to change) Disclosed Quantity	Yes

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				(0 if not required to change) Trigger Price (0 if not required to change) Order type ("" if not required to change) rest fields not required	

Pending Orders Request

Position	Size	Data type	Description	Remarks
0	14	Header	Header	

Trades Request

Position	Size	Data type	Description	Remarks
0	14	Header	Header	

Admin Position Request

Position	Size	Data type	Description	Remarks
0	14	Header	Header	

Response Admin Position Packet

Position	Size	Data type	Description	Remarks
0	14	Header	Header	
14	10	Char[]	Exchange	Correct values are 'BFO', 'BSE', 'CDS', 'MCX', 'NSE', 'NFO'
24	10	Char[]	Symbol	
34	10	Char[]	Account	
44	10	Char[]	Product type	
54	64	Char[]	Unique trading symbol	
118	8	Double	Fill Buy Quantity	This is Day position buy Qty (if 0,then CF Buy/Sell qty will be non 0)
126	8	Double	Fill Sell Quantity	This is Day position sell Qty (if 0,then CF Buy/Sell qty will be non 0)

134	8	Double	Fill Buy Amount	This is Day position Buy Amt
142	8	Double	Fill Sell Amount	This is Day position Sell Amt
150	8	Double	Carry forward buy quantity	if 0,then Fill Buy/Sell qty will be non 0
158	8	Double	Carry forward sell quantity	if 0,then Fill Buy/Sell qty will be non 0
166	8	Double	Carry forward buy amount	
174	8	Double	Carry forward sell amount	
182	8	Double	Q Buy Avg	This is actual price at which stock is bought, will be non 0 if CF Buy Qty is non 0
190	8	Double	Q Sell Avg	This is actual price at which stock is sold, will be non 0 if CF Sell Qty is non 0

Equity Holdings Request

Position	Size	Data type	Description	Remarks
0	14	Header	Header	

Response Equity Holdings Packet

Position	Size	Data type	Description	Remarks
0	14	Header	Header	
14	64	Char[]	Unique trading symbol	
78	8	Double	NSE LTP	

Cash Position Request

Position	Size	Data type	Description	Remarks
0	14	Header	Header	

Response Cash Position Packet

Position	Size	Data type	Description	Remarks
0	14	Header	Header	
14	10	Char[]	Exchange	Correct values are 'BFO', 'BSE', 'CDS', 'MCX', 'NSE', 'NFO'
24	10	Char[]	Account Id	
34	8	Double	Margin	
42	8	Double	Free Cash	

Chapter 2

Login Process:

There is no login process, client just have to connect to server and start firing orders.

Chapter 3

<u>Functionalities:</u>

1. **Order Requests:** Place Order/Modify Order/Cancel Order requests

Requests	*Message code*
• *New Order*	*101*
• *Modify Order*	*201*
• *Cancel Order*	*301*

Order Responses (callback sent to client):

Responses	*Message code*
• *Order Confirmation*	*102*
• *Order Rejection*	*103*
• *Modify Confirmation*	*202*
• *Modify Rejection*	*203*
• *Cancel Rejection*	*302*
• *Cancel Confirmation*	*303*

2. **Trade Requests**

Requests	*Message code*
• *Trade Requests*	*601*

Trade(Completed Orders) Response (callback sent to client):

Responses	*Message code*
• *Trade Start*	*602*
• *Trade Notification*	*603*
• *Trade End*	*604*

3. **Pending Order Requests:**

Requests	*Message code*
• *Pending Order Request*	*701*

Pending Order Response (callback sent to client):

Responses	*Message code*
• *Pending Order Start*	*702*
• *Pending Order Notification*	*703*
• *Pending Order End*	*704*

4. **Equity Request**

Requests	*Message code*
• *EQ Holding Request*	*401*

Equity Response (callback sent to client):

Responses	Message code
• *EQ Holding Start*	*402*
• *EQ Holding Notification*	*403*
• *EQ Holding End*	*404*

5. FO Position Request

Requests	Message code
• *FO Position Request*	*501*

FO Position Response (callback sent to client):

• *FO Position Start*	*502*
• *FO Position Notification*	*503*
• *FO Position End*	*504*

6. Cash Request

Requests	Message code
• *Cash Request*	*801*

Cash Response (callback sent to client):

Responses	Message code
• *Cash Notification*	*802*
• *Cash Position End*	*803*