
BSE Exchange's New Trading System

BSE Mumbai

BOLTPLUS IML

7.14

BOLTPLUS

Intermediate Message Layer (IML)

Manual

Version 7.14

Date: 15th March 2019

BSE Exchange's New Trading System

BSE Mumbai

BOLTPLUS IML

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List of Abbreviations

Please find a list of all the abbreviations used in the document. The first time an abbreviation is introduced in the document it is written in brackets after the phrase.

BSE: Bombay Stock Exchange

IML: Intermediate Message Layer

TPS: Third Party Software

OMB: Open Message Bus

UMS: Unsolicited Message Structure

BE: Back End

BBO: Best Bid and Offer

RTRMS: Real Time Risk Management System

SPOS: Special Pre Open Session

PCAS: Periodic Call Auction Session

ZT: Zero Terminal (option available in RTRMS system of Exchange)

RRM: Risk Reducing Mode

MWPL: Market Wide Position Limits.

OCO: One Cancels the Other Order

BOC: Book or Cancel Order

SLB: Securities Lending and Borrowing

STPC : Self Trade Prevention Check

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Introduction

The BSE, the oldest stock exchange in Asia BSE proposes to provide trading in multiple segments using a new system called New Trading System (BOLTPLUS). On this background, BSE is introducing a message bus for its equity, equity derivatives and currency derivatives segment. For security reasons, vendor 3rd party software (TPS) using the open message bus (OMB) must pass messages from and to BOLTPLUS through a black box called the Intermediate Message Layer (IML).

This document describes valid messages that need to be communicated between TPS and IML. The message bus between IML and the BOLTPLUS is proprietary and may or may not be the same as the open message bus.

The current BSE's OMB version used for all market is 7.05. The OMB is single document serving Equity, Equity Derivatives and Currency Derivatives segment. The OMB is derived from existing OMB Version 57.59. Majority of the IML messages are identical in both with few differences. The differences between existing OMB and new version are articulated in the Change Log section 9. The OMB needs to be read in conjunction with the existing IML OMB version 57.59 for all functional and technical references unless otherwise specified in this document.

The document does not cover all the functionalities currently supported in the equity and equity derivatives segment. The document covers the basic messages related to Order and trade management. The additional functionalities will be made available through API very soon.

Purpose

The purpose of this document is to provide the documentation of the simulation version of the new BOLTPLUS interface to participants.

It describes the main concepts of the BOLTPLUS OMB as well as all message formats.

Readership

The main target group are technical staff within the participant firms. Chapter [Message Formats](#) provides the detailed message formats and fields.

Technical Overview

The BOLTPLUS OMB has the following main characteristics:

Message Based

The BOLTPLUS OMB is asynchronous message based interface till the number of concurrent transaction requests reached. Number of concurrent transaction request is how much messages a user can push without waiting for the response or getting rejected (the number will be part of the logon response). The connection between the participant and the BOLTPLUS is established via a TCP/IP connection.

Connection Oriented

The BOLTPLUS OMB is a connection oriented interface. Participant application establishes connection to the trading system by user registration request through IML. An independent connection is required to be built for the equity segment i.e. separate connection is required for currency, equity derivatives and equity segment. A separate IML instance is required to be run for each segment. On a single Instance the user may have multiple connections connecting to the same segment.

The BOLTPLUS OMB provides information per connection via personal enquiry messages. This includes trade notifications, order enquiry. This enquiry messages are allowed only once per connection. The participant needs to reconnect if they want to enquiry once again.

Full Control in Case of a Failover

A heartbeat mechanism between the participant's application and the new BSE trading architecture supports the detection of malfunctions of the underlying trading session between the participant and the Exchange gateway.

The BOLTPLUS OMB does not include any mechanism for automatic failover. Participant applications can implement a failover mechanism of their choice that supports their requirement

System Requirement

The IML application requires the following system requirements

Description	Suggested Configuration
System Configuration	Intel core 2 duo / i3 or equivalent configuration
Memory	2 GB RAM minimum

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Network cards	2 Ethernet ports
Free Disk space	100 GB atleast
Display Resolution	1024 X 768
OS	Windows Server 2008 R2 (64 bit)
Software	DotNet framework 4.0 or above

Architecture Throttle

The number of transaction requests transmitted to the new BSE trading architecture per pre-defined time interval by each participant connection is limited. This is to:

Prevent single participant connections generating excessively high transaction rates, which might adversely affect the exchange's trading as a whole.

Guarantee fairness between participant connections.

- For more details, please refer to chapter 5.1.7 [Throughput Limits](#).

Service Description

Party Identification

The BOLTPLUS has a Participant/Member and User/Trader concept. Each participant can have a maximum 1000 users under him. The user 0 and 200 can do only admin activities whereas the remaining users allowed to trade.

Security Identification

The security should be identified by the instrument id. The list of instrument ID and their specification is available in the contract master files. Each security/contract belongs to a product and each product belongs to a partition. **A product is a grouping of one or many securities/contracts.** A partition is a grouping of set of products. . Certain events such as [mass cancellation](#) are communicated using product/partition identifier. The identifier for product and partition are available for each security in the security master file. The security master file format and the sample contract master files can be downloaded from the link www.bseindia.com/nta.aspx

Order Identifiers

Market participant should use the exchange order ID for order modification, cancellation and order related message identification. **The exchange order ID is unique per product. The Order ID will not be generated for orders rejected by the Exchange.**

Order Handling

1.1.1 Order Types

The following order types are supported via the BSE OMB interface:

Order Type	Description
Market	<p>An order for buying or selling at the best price prevailing in the market at the time of submission of the order. Any unexecuted portion of the order remains as a pending order till it is matched or its duration expires.</p> <p>The market protection percentage provides protection to market orders from unfair execution prices.</p> <p>The protection percentage will be applied on the first trade price of the order and the worst price is arrived at. The subsequent execution of the order will happen till the worst price if opposite side available else will be converted to limit order at the last executed price.</p>
Limit	<p>An order for buying or selling at a limit price or better, if possible. Any unexecuted portion of the order remains as a pending order till it is matched or its duration expires.</p>
Stop (Market)	<p>The stop loss order placed will not be visible to the market. Once it is triggered it will behave like a market order. The Stop-loss orders will be triggered on either the new trade price generated is equal or better than the trigger price or the trigger price is equal to the BBO.</p>
Stop (Limit)	<p>The stop loss order placed will not be visible to the market. Once it is triggered it will behave like a limit order. The Stop-loss orders will be triggered on either the new trade price generated is equal or better than the trigger price or the trigger price is equal to the BBO.</p>
One-cancels-the-other	<p>An order that combines the functionality of a limit order and a stop (market) order, expressed as a single order. Traders will specify a limit price and a trigger price as part of one order. If the limit price is reached then the stop-loss order will be cancelled and vice versa,</p>
Book or Cancel	<p>An order, which is placed as resting liquidity in the order book to ensure passive execution. If immediate (and hence aggressive) execution is possible, the order is rejected without entry into the order book.</p>

Order Type	Description
Good-for- day (Day)	<p>All orders are assumed to be Good-for-session orders unless otherwise specified. The validity of a day order ends at the close of that day's post closing trading period i.e. at the end of post closing session.</p> <p>In post closing session if the order price is worse than the close price determined in closing session then such orders will be cancelled.</p> <p>The Good-for –day orders will be accepted in all segment, however the functional relevance of these orders are restricted to Equity segment.</p>
Immediate or Cancel (IOC)	An IOC order is to be filled immediately, either completely or to the extent possible; the portion that cannot be filled immediately is cancelled.
Good-for-session	All orders are assumed to be session unless otherwise specified. The validity of a day order ends at the close of that day's continuous trading period i.e. at the end of continuous session.
Persistent orders	A persistent order is an order that survives a trading interruption. Persistent orders remain in the book until their validity expires or cancelled by Exchange.
Non-persistent orders	Non-persistent orders are automatically cancelled in case of a trading interruption, session loss or exchange system failure.
Recall/Early Return	<p>These are special type of buying and selling which are applicable for SLB market only. They are validated against existing positions.</p> <p>Recall is validated against existing sell position in that contract. Early Return is validated against existing buy position in that contract</p>

1.1.2 Order Quantity

Participants need to specify two quantities in the order request. The field Qty in order request will determine the total order quantity desired by the user. The field revealed qty in order request will determine the quantity desired by the user to be shown in the market data.

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1.1.3 Cancellation

An order may be cancelled by the order initiating user. The exchange also supports on-behalf cancellation by the admin user using the ZT terminal.

1.1.4 Modification

An order must be modified by the order initiating user only.

Orders that have been completely filled cannot be modified.

The following order attributes cannot be modified:

Instrument Code, Buy / Sell Flag

The following restrictions apply to the modification of the field *Order Type*:

- A Limit Order may only be modified to a Market Order
- A Stop Limit Order can be modified to Stop Market Order
- A Stop Limit Order can be modified to Regular Market Order
- A Stop Limit Order can be modified to Regular Limit Order
- A Stop Market Order can be modified to Stop Limit Order
- A Stop Market Order can be modified to Regular Market Order
- A Stop Market Order can be modified to Regular Limit Order

An order that is modified will lose its time priority If

- *Price* is modified in any way, or
- *Order Qty* is increased, or
- *Order Type* is changed, or
- Client code id changed or
- *Order* is "Triggered by system".
- *Revealed Qty* is increased

1.1.5 Total Order Quantity Modification

Participants need to specify the incremental quantity when modifying the field Qty. The modification quantity will be applied on the current pending quantity at the exchange to arrive at the new order quantity. In case of reduction in quantity if the modification quantity is higher than the available pending quantity then the order will be deleted completely

1.1.6 Revealed Quantity Modification

Participant need to specify the absolute quantity when modifying the field revealed Qty. The revealed quantity at exchange will be replaced with the new revealed quantity. In case the user is modifying the

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price only then the revealed quantity can be set as 0 is the modification request.

1.1.7 Order Cancellation Notification

The pending orders of a participant at the exchange can be cancelled due to various reasons like product suspension, user suspension, member suspension, RRM, MWPL RRM etc and users are notified by mass cancellation notification and for persistent orders, order-by-order cancellation is also provided.

Mass cancellation confirmation is not provided on a single order level. The owning session will be informed about the scope of the cancellation by a summary record with an exception list. Please find more information regarding unsolicited mass order cancellation in section related to Mass Cancellation Notification.

1.1.8 Client ID and Client Type

Valid Client Types accepted during placing of orders

Client Type	Value
OWN	20
CLIENT	30
SPLCLI	40
INST	90

1.1.9 STPC Flag

The field "STPC Flag" indicates the preference of order to be cancelled in case of potential self-trade (match between same PAN) is encountered. The user can select for each order, if he desires to cancel the active(incoming) order or passive(resting) order in such case

The preference indicated in fresh order entry will be applicable for the life of order. The preference cannot be changed in modification requests.

If the preference is set to passive, then full resting order will be cancelled, and session will be notified through Cancelled Order UMS (3233).

The preference set in active order will always have precedence over preference set in passive order.

The behaviour of matching based on flag set will be as per table below

Order	STPC flag = Active	STPC flag = Passive
Active (Incoming) order	If a self-trade case is encountered at a price point, then matching will be restricted to that price point only. The active order will be matched with other orders present at the price point only and remaining quantity of active order will be	If a self-trade case is encountered at a price point, then the passive order will be cancelled completely and matching of active order will continue to happen till the match able quantity is available at same price point or other

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	cancelled.	match able price points.
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1.1.10 Location ID

The Location Id of the end-user who is placing the orders should be registered with the Exchange. The location id consists of 16 digits and break-up of this Location Id is given below:

6 digits: Pin Code

4 digits: Branch Id

3 digits: User id

1 digit: Program Trading

Possible Values

0 – No Program Trading

1 – Program Trading Allowed

2 – DMA Allowed but No Program Trading

3 – DMA Allowed with Program Trading

4 – SOR

5 – Handheld Device

6 – SOR with DMA

7 – SOR with DMA with Program Trading

2 digits: Vendor Code

If type of user =0 (TWS) then Program Trading must be 0

If type of user =1 (IML) then Program Trading must be 0 to 7.

P.S:

The location ID needs to be registered through the web interface provided to the members.

If the end-user passes a Location Id with Invalid length (i.e. not equal to 16 digit) than the order request will be rejected. However if the user passes a valid length location ID but which is not registered with the exchange. In such case the order will be successfully accepted.

Such orders will be subjected to penalty at EOD.

1.1.11 Algo ID

Participants need to specify a unique identifier known as “*Algo ID*” with each order which is originating from an algorithm. The Exchange will assign a unique *Algo ID* to each strategy/ algorithm at the time of seeking approval for the strategy/ algorithm. The Algo ID is not mandatory for orders which are not originating from an algorithm.

1.1.12 Trade Notifications

The user will receive trade notifications of own orders resulting to trade. The admin users will get the trade notifications of all users under him.

1.1.13 Risk Control

The BOLTPLUS OMB supports advanced risk protection services. The private broadcast supports three types of message formats:

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When a breach on a certain level of risk limits occurs, the participant will be informed via the Risk Notification message.

The member will be notified at various levels of breach.

Currently the alerts are sent in following cases of RRM

- Collateral exhaustion
- Position limit violation in equity derivatives and currency derivatives
- Regulatory Compliance

This private stream is automatically sent to each connection of the corresponding member

1.1.14 Price

For Equity, Equity Derivatives, commodities segment, the Bolt plus system supports 2 decimal price points. All price fields in messages are in paise. So user needs to divide the price by 100 to have it in rupees. While sending messages the user needs to multiply the price by 100.

In case of Currency derivatives system supports 4 decimal price points. All price fields in messages are in paise. So user needs to divide the price by 10000 to have it in rupees. While sending messages the user needs to multiply the price by 10000.

1.1.15 News

The News message provides public information from the BSE market supervision. The news messages are sent through the multicast mechanism only

1.1.16 Connection Concept

- Users will be classified as Persistent or Non persistent. There are certain restriction on set of activities that can be performed by each user type. Following table provides a summary view of the activities restricted on each User type.

Activities	Non Persistent	Persistent
Orders	Non Persistent	Persistent
Order-by-order cancellation [Message type 3233]	Not Available	Available
Pending Order Query and Pending order query for stop-loss. [Message type 1092 and 1097]	Not Available	Available
Cancelled Order Query and Cancelled order query for stop-loss.[Message type 1170 and 1173]	Not Available	Available

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Mass cancellation Notification	Available	Available
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The User type will be conveyed to the user through the invitation message sent to the user on login.

1.1.17 Identification and Authentication

The BOLTPLUS has a two-step logon procedure, with a user registration request to establish a connection with BOLTPLUS followed by User Logon request.

The connection establishment is required to be done separately for each segment through different instance of IML.

1.1.18 Password Management

A password is required to be sent in the Logon Request. The New Trading system enforces certain rules on password required for authentication.

Login attempt with incorrect password would lead to disconnection of socket for the user. Maximum 3 consecutive attempts with incorrect password are allowed. The account will get locked with 4th attempt of login with incorrect password. In case the account is locked then the account is required to be unlocked by a password reset action which can be done by the administrator through ZT Terminal. . Also password will also expire immediately whenever the account is unlocked (i.e. whenever password reset is done by the administrator).

Additionally, the account password will expire every 15th day from the date when the password was last modified. In all cases of password expiry, it is required that the account password is changed by the application post login is successful. In case the user fails to change the password then the user will not be allowed to login with expired password in subsequent login attempt. In such case password is required to be unlocked by a password reset action which can be done by the administrator through ZT Terminal.

The password for user can be changed using [Change Password Request](#).

There are certain policies enforced on the password that can be set for an account. They are:

- The password should be minimum 8 characters and maximum 10 characters long
- The password should be alpha numeric
- The password cannot be blank.
- The last 3 password should not be same as new password.
- The passwords should be changed every 15 days
- Following special characters are allowed in the password
 - ! , # , \$, % , & , * , + , - , / , = , @ ,

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1.1.19 IP Addresses and Ports

The IP and Port information to connect to BOLTPLUS should be defined in the IML.ini file.

IML maintains two sets of connections for every trader. One set connected to the exchange and the other one connected to the TPS. Both sides require respective IP's and Port number configuration. The exchange configuration needs to be defined in the iml.ini file. The Exchange side IP and port will be different for each segment and needs to be configured separately for each IML instance. The TPS side configuration is customizable. The settings are kept in IML.ini file and accessible through "Configuration" screen of IML.

The TPS, in order to connect to the BOLTPLUS, must set up a **TCP/IP** connection with the IML on **port number XXXX (user defined)**. This port is called listener port, indicated as 'PortL' in IML.ini file and is configurable as per user requirement.

For receiving broadcast from exchange the user needs to define the port number, multicast IP and interface IP in iml.ini.

A **UDP IP address & port number XXXX (user defined)** information also required for the rebroadcast of received broadcast messages.

1.1.20 User Authentication

The user will be authenticated by the password provided in the logon request. The user authentication has certain policies on the password. Refer [Password management section](#). The user can also change the password using the password change request.

Quotes Handling

1.1.21 Quotes Characteristics

A (double sided) Quotes establishes both a limit to buy and to sell within a single transaction. Quantities to buy and to sell are independent of one another. The new trading architecture supports single and double-sided Quotes.

A Quote is owned by the user. A user may have only one Quote per instrument. Users belonging to the same business unit may have different Quotes in the same instrument, but only one Quote per user. Quotes of the same business unit will not be executed against each other or with the Quotes of other market makers.

One user cannot enter or modify individual Quotes of another user.

Quotes are non-persistent; they are automatically cancelled in case of a trading interruption or exchange system failure (i.e. market reset) and are only valid good-for-day.

1.1.22 Maintaining Quotes

Quotes are entered using the Quote message. A Quote request may have several single-sided or double-sided Quotes for different instruments of the same product. This is possible, for instance for all options,

and futures on stock.

There can only be one Quote for an instrument in a Quote message. Actions can be different for each side of a single instrument, for example in a double-sided Quote; a trader can cancel one side and replace the other side.

The participant defines a Quote reference number for each Quote message. The Quote identifier is provided in each Quote Response. The message tag is defined for each instrument in the Quote messages and the same is echoed back in the Trade notifications. Each Quote will be responded with a Quote response message or a MM reject message. Quote response message is sent in case of successful acceptance of the order in all instruments or few of the order instruments. MM reject message is sent when the entire Quote (orders in all instrument) is rejected.

The new trading architecture has two methods for updating MM orders:

- Quote Entry
- Quote Modification

Note: Quote Entry and Quote Modification cannot both be used within the same Quote message.

The two types of market making models are distinguished by the usage of different values in field Quote size Type

Model	QuotesizeType values
Quote Entry	2 = Open Size
Quote Modification	1 = Total Size

Every Quote entry simply overwrites an existing Quote without considering an existing executed quantity. For each Quote entry request, the user must specify the new price and the new quantity of the Quote side. Under Quote entry, there can only be one entry per instrument. If a two sided Quote is entered then both sides must be in the same entry.

Accepted Quotes are not confirmed in the Mass Quote Response unless additional information needs to be conveyed back to the submitter. The field *QuoteEntryStatus* identifies the status of Quote entries of a Mass Quote that could not be processed as requested.

If an individual Quote side of a double-sided Quote in a Quote request is rejected (for instance after the price reasonability check or the extended price range validation), then both sides of the Quote for the instrument are not processed, and both sides of the current Quote are cancelled; see Mass Quote Response message.

If however, the entire mass Quote request is rejected, then any old Quotes of the session remain unaffected; even if there had been new Quotes for the corresponding instruments in the rejected mass Quote request.

Quote modification allows a trader to enter or modify Quotes with a total execution limit, similar to orders where the quantity specified by the trader is always a total order quantity. The previously executed quantity of a Quote side is maintained and is used to calculate the new open quantity. If this is zero or less then the Quote side will be cancelled. If the previous Quote is not found, for example as it has traded out, then the modification is ignored.

The priority timestamp of a Quote stored in the order book is preserved when the price is left unchanged and the open Quote quantity is not strictly increased. Like for orders, when price and quantity are not modified, the priority timestamp is also preserved. In all other cases, the priority timestamp is refreshed.

To cancel a Quote side, the Quote quantity must be set to zero and the limit price field must be omitted. Only Quotes entered via the same session can be cancelled with the Quote Request

Quote mass cancellation functionality is provided via Quote Mass Cancellation Request. With the help of this request it is possible to cancel all own Quotes. Please find more information regarding unsolicited mass cancellation in section Mass Cancellation.

The following table list the scenarios for the valid values of *QuoteEntryStatus* (1167):

Scenario	Quote in Book	Quote Entry Status	Bid Cancel Size and/or Sell Cancel Size provided
Incoming Quote with error	no	5 = Rejected	no
Incoming Quote with error	yes	6 = Removed quote in book and Rejected	yes
Modify Quote	no	0 = Accepted with warning	0
Modify Quote (Qty <= executed Qty)	yes	0 = Accepted with warning	yes (remaining Qty)
Incoming Quote side would lead to Crossing	yes	0 = Accepted with warning	yes (quote side in book cancelled)
Incoming Quote during Freeze		10 = Pending	no
Incoming Quote during Freeze (already pending)		5 = Rejected	no

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Failover

1.1.23 Network Failover

In the event of a network connection failure, active BSE connections will be disconnected from the exchange. There will be no automatic connection failover if a connection to the exchange is lost. Participants should therefore implement a failover mechanism in their application, in order to be able to establish a BSE connection over the alternative connection.

1.1.24 Application Failover

In the event of a BSE exchange failure, active connections will be disconnected.

If the active BSE connection is ever disconnected, for any reason, the participant application must reconnect to the Exchange by resending the User Registration Request message followed by Logon request.

1.1.25 Throughput Limits

A participant application may send multiple messages without waiting for a response. However, the number of messages allowed within a given timeframe is limited by the use of throttles.

The limits are configured by the new trading architecture for each session, and are provided to the participant application post logon response.

The limit parameters are upper limits and do not guarantee throughput rates. As loads fluctuate in the exchange system, actual throughput rates can vary.

The mechanism uses two components:

- Transaction Limit
- Reject/disconnect limit

The Invitation UMS packet will contain all the above information's.

1.1.26 Transaction Limit

The transaction limit is the maximum number of messages that a participant application may send within a configured time interval without getting rejected (sliding window approach).

If a participant application exceeds the threshold "number of transactions per time interval", the exceeding request will be rejected and not queued. The unit of the time interval is seconds.

All the features associated with HFT and LFT sessions which are present in BOLT system is not applicable in BOLT plus system.

The application will be provided with transaction limit (Order Rate) and max slot information through the order rate message [Message type 51] at the time of login. The transaction limit provided is applicable for

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all the transaction (including orders and query)

There will not be any per second invitation message [Message type 50] that would be sent to the user. The TPS application is required to manage the time slot of second within the application.

The transaction limit sent in the order rate message is applicable for each socket on which this message is received i.e. if multiple traders connected to single IML instance then transaction size limit for each trader will be sent separately on the respective socket.

The transaction limit for a user may change during the day and if it happens, the user will be intimated with Order Rate message anytime during the day also using Message Type 51, thus the order rate may be received by member application multiple times within a day

1.1.27 Reject/Disconnect Limit

The purpose of the Reject/Disconnect Limit is to protect the exchange from large amounts of invalid data. It defines the maximum number of sequential message rejects due to the violation of the transaction limit allowed by the BSE IML API. In a given second if the transaction limits for a user is exceeded then all further transactions sent in that second will be rejected and all rejection due to transaction limit exceed will be provided in the transaction response message itself with error code (100) The rejections will not be sent through protocol message [Message type 1000]

If the participant application continues to send messages which are rejected for exceeding the transaction limit and the reject/disconnect limit is exceeded, the BOLTPLUS will disconnect the user.

1.1.28 Mass Cancellation

Mass cancellation can take place in BOLT plus for various reasons such as

1. Member Suspension
2. Product Suspension/ Instrument Suspension
3. Connection Disconnection [For non-persistent orders]
4. Session Expiry [End-of-session and End-of day orders]

Mass cancellation for Non-Persistent orders

For Mass cancellation occurred due to member suspension or product suspension all the orders for the given scope will be cancelled and single mass cancellation notification will be sent to the user. The mass cancellation notification will also provide the scope of cancellation i.e. all orders for specific product, specific instrument belonging to a product, . It is recommended that the member applications should cancel all the orders in their book on receipt of mass cancellation notification as per the scope received in the mass cancellation notification(except for theNotAffectedOrders). The mass cancellation notification will be sent for each product where the orders are present in case of Product Suspension and Member suspension.

In case the user performs session log-off or the socket gets disconnected abruptly then the mass

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cancellation will be triggered for that user. For Mass cancellation occurred due to socket disconnection or log-off, the mass cancellation notification is not sent.

The mass cancellation event is not applicable for orders submitted on BOLT system. The orders submitted on BOLT system (odd lot, auction) will not be cancelled automatically on disconnection.

On reconnection it is recommended that the member applications should query trades and mass cancellation notifications and based on trades and mass cancellation notification messages received, cancel all the remaining orders in their book. The request for query for pending/ cancelled orders will not be supported for non persistent users. Whenever the mass cancellation event is triggered, it may be possible that orders in few securities could not be cancelled as the security state did not allow cancellation (e.g. Call auction Matching was in progress). The Mass cancellation Notification field NotAffectedOrderID will contains the Exchange Order ID whose cancellation could not be completed.

In such cases the orders will be cancelled when the security state allows cancellation provided the orders didn't execute into trades. The user will be notified with individual cancellation message (Message type 3233) for the remaining orders.

Mass cancellation for Persistent orders

For Mass cancellation occurred due to member suspension or product suspension all the orders for the given scope will be cancelled and single mass cancellation notification will be sent to the user. The mass cancellation notification will also provide the scope of cancellation i.e. all orders for specific product, specific instrument belonging to a product.

Additionally for persistent orders, individual cancelled orders will also be sent to the user. The member applications can use the mass cancellation notification and trades to reconcile their order book. Alternately the member application can use the traditional Personal Order Information messages [Section 7.1.17] to reconcile their book

The mass cancellation notification will be sent for each product where the orders are present. Whenever the mass cancellation event is triggered, it may be possible that orders in few securities could not be cancelled as the security state did not allow cancellation (e.g. Call auction Matching was in progress). The Mass cancellation Notification field NotAffectedOrderID will contains the Exchange Order ID whose cancellation could not be completed. In such cases the orders will be cancelled when the security state allows cancellation provided the orders didn't execute into trades. The user will be notified with individual cancellation message (Message type 3233) for the remaining orders.

Connection Layer

1.1.29 Flat Binary Encoding

OMB messages have a defined order of fixed-length fields. The repeating groups consist of a number of records filed (indicating the number of record elements). In general, repeating groups are at the end of the OMB messages.

Binary values are presented in little endian byte order.

The length of OMB messages (Message Length) is the length of the message data. I.e. it does not include the header 8 bytes.

1.1.30 Logon

The participant application needs to open a TCP/IP connection to BOLTPLUS during start-up through user registration request.

The second message to be sent on the connection must be the user logon message. Any other message sent would result in rejection of message.

If the User Logon message is not sent within a certain time interval, the connection will be closed by the BOLTPLUS.

1.1.31 Logout

The participant may log out the connection using User Logoff Request message.

After a successful user logout, the participant should shut down the connection and close the socket.

Participant applications must disconnect from the BOLT plus system each day after trading and should close the TCP/IP socket after logging off the connection.

1.1.32 Heartbeat

The Heartbeat message should be sent by the participant if no other message has been processed during the current defined interval i.e. 1 minute. It is used by the BOLTPLUS to monitor the status of the communication link to the TPS client during periods of inactivity. If no heartbeat message sent then BOLTPLUS will disconnect the participant.

Note: Heartbeats do not count against, nor do they reduce, any of the throttle counters.

The Heartbeat Notification is sent by Exchange at defined interval i.e. 1 minute, regardless if the participant application sends Heartbeat messages or not. It may be used by the TPS application to monitor the status of the communication link to the exchange gateway during periods of inactivity.

1.1.33 Message Tag

Many of the messages have message tags in the requests. The tag value is echoed by the BOLTPLUS in the reply. This field can be used by the TPS vendor to identify their requests for the corresponding reply.

1.1.34 Protocol Message Handling

In the trading system a transaction request is identified by *Message Type*. Every transaction request is followed by a transaction response and both the request and response has the same *Message Type*. In the normal course of trading there could be scenarios for technical failure due to which the normal trading is abrupt. In these scenarios the transaction response will have different *Message Types* than the transaction request. The user can map the request through the *Message Tag* field. This response will have *Message Identifier* as -1.

The possible abrupt the member would face is

- Disconnection
- System Error

1.1.35 Disconnection

The trader is connected to Exchange via a TCP socket. All transactions of the user takes place of the same socket. At times in normal course of trading the user may experience a socket disconnection. The disconnection takes place for various reasons. The reasons are classified into 2 major categories.

Disconnection from BE

Such disconnections take place whenever the BOLT plus Back End encounters a message on the socket which is not recommended or whenever a serious technical issue occurs at the BE. Thus whenever the BOLT plus Back End encounters such messages it disconnects the trader by giving notification. The trader receives a message called "PROTOCOL MESSAGE" on the TCP socket and then the TCP socket is closed by the Back End.

Disconnection due to network

Such disconnection takes place whenever there is some jitter in the network. Such conditions are unforeseen and cannot be detected beforehand. Thus in such cases of disconnection no protocol messages can be sent.

In both cases of disconnection above, the IML logs an entry for disconnection in the sock close file generated in the IML folder. The entry would look like

For Disconnection from BE

TraderId XXX - Connection Dropped with [Err Num-0]

For Disconnection from network

TraderId XXX Connection Dropped with [Err Num-10053]

1.1.36 System Error

In normal course of trading at times due to technical issues, the reply for transaction request is not sent. Instead of reply, protocol message is sent. This means the transaction requested by the user could not be completed due to technical issue and the user needs to initiate the transaction again if required

1.1.37 Recovery

The BOLTPLUS system supports recovery of orders and trades. The recovery mechanism for a persistent user and non persistent user differ in terms of the outstanding orders. The IML application will not allow any transaction message to be sent by the application while the recovery is in progress. It would be rejected with Protocol Message [Message type 802]. The IML will allow any transaction message once the download of order/ trade is over.

Below sections describes the recovery mechanism for each category of users

Full Recovery of Trades

Both persistent and non persistent users can recover complete trades occurred during the day. The user can initiate either a full recovery or incremental recovery for trades. The Full recovery can be initiated using the [Message type 1095]. The incremental Recovery can be initiated using [Message type 1085]. The mechanism of incremental recovery is detailed below.

Incremental Recovery of Trades

BOLT PLUS system supports full trade recovery and **additionally** incremental recovery of trades is also supported by BOLT PLUS system. Traditionally the BOLT system supported incremental trade recovery based on time. The BOLT PLUS system supports incremental trade recovery based on sequence number. In order to support recovery based on sequence number a new real time trade message [Message type 3521] would be provided with sequence number.

The Exchange will assign an application message sequence number, *App/SeqNum* to messages related to Trade Notification in message [Message type 3521], The *App/SeqNum* has the following characteristics:

- The first message will be the message sequence number 1.
- It is ascending during a business day until end-of-stream (Trade Notification).
- The message sequence will be gapless and allows gap detection.
- Trade notification: unique per business day, partition

Recovery is supported for recoverable trades. Since sequence numbers are unique per partition, the *PartitionID* is a mandatory parameter for recovery request.

With a recovery request, only data in the scope of one partition can be requested via *PartitionID* field

. The member applications can recover all trades or incremental trades. The application message sequence numbers "Application Begin Sequence Number" and "Application End Sequence Number" in the recovery request [Message Type 1085] provide the recovery sequencing range. If no start value is specified, it is assumed to be -1. If ending range is absent, it is assumed to be infinity (all available messages).

The recovery response will provide the range of recovered order data in the fields "Application Begin Sequence Number" and "Application End Sequence Number." This range may differ from the requested range, i.e. further recovery requests may need to be submitted.

Following Example explains the recovery procedure to be followed for trades using sequence number.

E.g. The user has 90 records for partition 1 and 35 records for partition 2. The user wanted to do full download then the following approach needs to be followed.

Sr. No.	Request Fields			Response Fields		
	Application Begin Sequence Number	Application End Sequence Number	Partition ID	Appl Total Message Count	Appl End SeqNum	Ref Appl LastSeqNum
1	No Value	No Value	1	20	20	90
The request was initiated for full trade recovery for partition 1. The response message indicates 20 of 90 messages will follow as UMS in response to this recovery request. The next recovery request should be initiated with the next sequence number (21)						
2	21	No Value	1	20	40	90
The response message indicates next 20 of 90 messages will follow as UMS in response to this recovery request. The next recovery request should be initiated with the next sequence number (41)						
3	41	No Value	1	20	60	90
4	61	No Value	1	20	80	90
5	81	No Value	1	10	90	90
Here the recovery for partition 1 can be stopped as the Appl End Seq Num and Ref Appl Last SeqNum is same. Similar to partition 1 the recovery can be initiated for partion 2						
6	No Value	No Value	2	20	20	35
7	21	No Value	2	15	35	35

For incremental trade download the user needs to send **Application Begin Sequence Number**

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containing a proper value instead of No Value. All the trades will be sent in 2 message types [1521, 3521] simultaneously. All application using 1521 will continue to get the message. Similarly the Recovery using the traditional Message [Message Type 1095] would also continue to be available.

Recovery of Orders

BOLTPLUS system supports recovery of orders in different form for persistent and non persistent users,

Recovery of Orders for Persistent Users

The persistent user can initiate the recovery of outstanding orders/ cancelled orders using the Personal Information Requests.

Recovery of Orders for Non Persistent Users

The exchange will provide recovery for mass cancellation messages on reconnect. The member applications can request for mass cancellation messages also in order to reconcile the book. The recovery of mass cancellation messages can be initiated with new request message. [Message type 1087]. The Exchange will provide the response and product level mass cancellation messages.

The flow of communication would be

Request [Message type 1087] → Reply [Message type 1087] → UMS [Message type 1087] → End of UMS [Message type 1088].

Message Formats

This chapter provides details on the administrative and application messages used by the Equity OMB. Information on data types and the most important error codes are provided. Messages sent by participants may be rejected due to system error (protocol error response).

There are basic four types of messages in open message bus as described below.

- **Protocol** – There are two protocol messages. One user registration request and the other heartbeat message. Always send '-1' as slot number for protocol messages. Due to system error sometimes a valid request (like add order) may be resulted into a protocol reply.
- **Requests and Replies** – Requests are sent by TPS to BOLTPLUS via IML. BOLTPLUS sends back the replies. The slot number can be used from '1' to '2147483646'. All the reply messages contain the same slot number sent in the request. If for any request system/protocol error comes then the reply will come with slot number as -1.
- **UMS (Unsolicited Messages)** – BOLTPLUS sends unsolicited messages to TPS. There are two kinds of UMS one which is generated by the exchange (Trade Notification, Broker suspension etc) and the other which is asked by a request (Pending Order Information, Cancelled Order Information etc). All these messages contains slot number as '0'. All UMS messages come with a header consisting of slot number and message length followed by data. Data starts with message type.
- **Broadcasts** – BOLTPLUS broadcasts common market/trading information to all the users. Broadcast messages come with slot number '0'. All broadcast messages come with a header consisting of slot number and message length followed by data. Data starts with message type.

Basic terminologies associated with the exchange of messages:

- Every application messages (Request, Reply, UMS, Broadcast & Protocol) has a fixed header of 8 bytes consists of Slot Number & Message Length.
- Every message has a 'message type' associated with it. It identifies the service requested by the user.
- Every request message has a reply associated with it. The Message Type of the reply is the same as the Message Type of the Request. (Except Heartbeat Message which does not have a reply & Protocol Error replies).
- Protocol Error replies come due to system issues. So for any request there will be either proper reply (reply with same message type) or protocol reply (.). The participant application needs to take care of this aspect. The protocol replies comes in slot number as -1. So the participant application needs to use the Message Tag field to identify their request.
- If UMS results from a request, it too has the same message type as the request and reply.
- Some UMS are followed by End of Information UMS which indicates that the corresponding UMS downloading is completed.
- Many of the messages have message tags in the requests. The tag value is echoed by the BOLTPLUS in the reply. This field can be used by the TPS vendor to identify their requests for the corresponding reply.

The trade confirmations also carry the tag of the original tag of the order.

Every application message must be pre-pended by following two fields –

- **Reserve Field / Message Identifier** – It is a 4 byte long binary number. For normal requests use any valid number. In case of responses received from exchange this field having value '0' means UMS and '-1' means protocol message//.
- **Message length** – It is also a 4 byte long number indicating the number of bytes being sent/receive. The message length should exclude this 8 byte header.

Example for Heart-Beat Message

Header Part

Slot Number: Any Number

Message Length: 4 (Size of data excluding header)

Data Part

Message Type: 13

Each OMB message format has a unique binary message type identifier (*Message Type*).

Overview of Supported Message Types

1.1.38 Administrative Messages

OMB Message	Message Type	Sender
User Registration Request	0	Participant
User Registration Response	0	Exchange
Protocol Error Response	800, 802, 100	Exchange
Heartbeat	13	Participant
Heartbeat Notification	14	Exchange
User Logon Request	1131	Participant
User Logon Response	1131	Exchange
Order Rate Message	51	Exchange
User Logoff Request	1132	Participant
User Logoff Response	1132	Exchange
Logoff Notification	1132	Exchange
Change Password Request	1133 & 1134	Participant
Change Password Response	1133 & 1134	Exchange
Trades Request	1095	Participant

Trades Response	1095	Exchange
Trades Information	1095	Exchange
Trades End of Information	1520	Exchange
Incremental Trade Request	1085	Participant
Incremental Trade Response	1085	Exchange
Trade Information 2	1085	Exchange
Trade Enhancement Request	1080	Participant
Trade Enhancement Response	1080	Exchange
Trade Enhancement Notification	1080	Exchange
Market Data Info Request	2111	Participant
Market Data Info Response	2111	Exchange
Mass Cancellation Information Request	1087	Participant
Mass Cancellation Information Response	1087	Exchange
Mass Cancellation Information	1087	Exchange
End of Mass Cancellation Information	1088	Exchange
Trader wise Limit Request	22002	Participant
Trader wise Limit Response	22002	Exchange
Trader wise limit Information	22001	Exchange
Scrip Wise Limit Request	22005	Participant
Scrip Wise Limit Response	22005	Exchange
Scrip Wise Limit Information	22005	Participant
End of Scrip Wise Limit Information	22015	Exchange
Scrip wise limit change Information	22006	Exchange
Group wise limit Request	22012	Participant
Group wise limit Response	22012	Exchange
Group wise limit change Information	22016	Exchange

1.1.39 Application Messages: Order Handling

OMB Message	Message Type	Sender
Add / Update / Delete Limit, Market & Stop-loss Order Request	1025	Participant
Add / Update / Delete Limit, Market & Stop-loss Order Reply	1025	Exchange
Add Update Block Deal Order Request	1071,1072,1073& 1074	Participant
Delete Block Deal Instrument Request	1075& 1076	Participant
Add Update Delete Block Deal Order Reply	1071,1072,1073, 1074,1075& 1076	Exchange
Multi Leg Order Request	2025	Participant
Multi Leg Order Reject	2026	Exchange
Multi Leg Order Execution Report	2027	Exchange
Quote	1040	Participant
Quote Response	1041	Exchange
Quote Mass Cancellation Request	1043	Participant
Quote Mass Cancellation Response	1044	Exchange
Quote Mass Cancellation Notification	1045	Exchange
Quote Reject	1049	Exchange

1.1.40 Application Messages: Other

OMB Message	Message Type	Sender
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Trade Notification	1521	Exchange
IOC Kill Quantity Notification	1531	Exchange
Market to Limit Conversion Notification	1530	Exchange
Stop-loss Trigger Order Notification	2507	Exchange
Trade Notification 2	3521	Exchange
Risk Reducing Mode Notification	1920	Exchange
Trade Enhancement Notification	1532	Exchange
Capital Information Notification	1922	Exchange
Member Suspension	24004	Exchange
Member Reactivation	1528	Exchange
Mass Cancellation Notification	1927	Exchange
Cancelled Order UMS	3233	Exchange
Returned Order/Block Deal UMS	1853 & 1856	Exchange
Position Limit Alert	1921	Exchange

1.1.41 Broadcast Messages

OMB Message	Message Type	Sender
Time Broadcast	2001	Exchange
Session Change Broadcast	2002	Exchange
Market Picture Broadcast	2020	Exchange
Close Price Broadcast	2014	Exchange
Margin Percentage Broadcast	2016	Exchange
Sensex Broadcast	2011	Exchange
All Indices Broadcast	2012	Exchange
Open Interest Broadcast	2015	Exchange
RBI Reference Rate	2022	Exchange

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News Broadcast Message	2004	Exchange
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Data Types

The field types in this document are to be interpreted as follows –

- **Long long / long/ short** – This is binary representation of a number which are 8/4/2 bytes respectively.
- **char (XX)** – This is null terminated and yet a fixed length field of character string of upto XX number of bytes. It should be left justified. If the value overflows the length of the field, it gets truncated and no null character may come in this case.
- Rate wherever included, should be in paise.

Administrative Messages

1.1.42 User Registration Request

Type of Message : Protocol
Description : Message from TPS to connect to BOLTPLUS via IML.

Note: - Member Id and Trader ID should be used as provided by BSE.

Field Name	Type	Values
Message Type	Long	0
Slot No	Long	-1
Member Id	Long	As defined in iml.ini
Trader Id	Long	The actual trader id to be logged in

1.1.43 User Registration Reply

Type of Message : Protocol
Description : Reply informing TPS if user registration is successful or not

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of Message type	
Slot Number	Long	Slot Number	
Reference tag	Long	The message tag which was sent in the request	
Error Code	Long	The error for which the protocol message was sent	
Error Text	Char[80]	Error Description	

1.1.44 Reply or Error Message

- The protocol message structure for disconnection and system error is same as reply for user registration request.
- The message type for disconnection is 800 and for system error is 802.
- In case of disconnection message (Message type 800) the error code mentioned in section 7.3.4 below describes the exact cause of disconnection.
- The protocol message for system error (Message Type 802) contains the message tag of the transaction which could not be completed successfully.
- Message Type 100 indicates the transaction message sent is not valid transaction.

Type of Message : Protocol
Description : Message informing TPS of an error. Error list is as follows.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of Message type	800 – Disconnection 802 – System Error 100 – Unknown Transaction 1000- Throttle limit Exceeded
Slot Number	Long	Slot Number	
Reference tag	Long	The message tag which was sent in the request	
Error Code	Long	The error for which the protocol message was sent	
Error Text	Char[80]	Error Description	

1.1.45 Heart Beat Message

Type of Message : Protocol

Description : Message informing BOLTPLUS that the TPS is alive. If no activity takes place on the connection for 1 minute, BOLTPLUS closes the connection. Thus on idle lines, TPS must send the following message every time interval.

Field Name	Type	Values
Message Type	Long	13

1.1.46 Heart Beat Notification

Type of Message : Protocol

Description : Message informing TPS that the link is active. It is sent by exchange at the defined interval i.e. 1 minute.

Field Name	Type	Description	Values
Message Type	Long	The message type	14
Sending Time	Long Long	The time when the notification was sent from the exchange, The time is in UTC format	

1.1.47 User Logon Request

Type of Message : REQUEST

Description : This message is sent when the user logs in the New Trading system. In response to this request, the BOLTPLUS replies with the **LOGON REPLY**. This should be the second request to be send after user Registration Request (message Type: 0)

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1131 - Logon Request
Password	Char (10+1)	Password taken during login process.	Refer Password Management section for details on password policies
Filler	Char	Filler	
Message Tag	Long	Message Tag	

1.1.48 User Logon Reply**Type of Message** : REPLY**Description** : This is a reply for the Logon Request sent by the TPS when a user logs on to the Trading System.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1131 – Logon Reply
Reply Code	Short	Code indicating success of logon	Following error code indicates success 0 – Successful logon 218 – Successful logon with expired password(Grace Login) All other error codes indicate the login failure.
Reserve Field	Long	For Future Use	
Reply Message	Char (39+1)	The message (in case of error) that is to be displayed to the user	
Message of Day	Char (399+1)	The message of the day to be displayed to the user.	The end of line is indicated by a semi-colon.
Reserve Field	Char	For Future Use	
Reserve Field	Char	For Future Use	
Reserve Field	Char	For Future Use	
Reserve Field	Char	For Future Use	
Reserve Field	Char	For Future Use	
Reserve Field	Char	For Future Use	
Reserve Field	Char	For Future Use	

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Reserve Field	Char	For Future Use	
Reserve Field	Char	For Future Use	
Reserve Field	Char	For Future Use	
Reserve Field	Char	For Future Use	
Reserve Field	Char	For Future Use	
Reserve Field	Unsigned char	For Future Use	
Reserve Field	Unsigned char	For Future Use	
Reserve Field	Char (6+1)	For Future Use	
No. Of Partitions	Short	The total number of partition available in the segment,	The partition number will always start from 1 and will increment up to the value specified in this field
Reserve Field	Short	For Future Use	
Message Tag	Long	Message Tag	

1.1.49 Throttle Notification

Type of Message : UMS

Direction : CTE to TPS

Description : This message provides information about the throttle parameters that are applicable for the session. The message is sent as UMS post successful logon. The message can also be sent intraday if there is a change in throttle parameter initiated by the exchange.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of Message type	51 – Throttle Notification
Transaction Limit	Long	Transaction limit per Throttle Time Interval	
Max Slots	Long	The maximum number of orders that the user can retain which are unacknowledged by the exchange	

Reject Limit	Long	Maximum number of rejection allowed per ThrottleTimeInterval without disconnecting the session.	
User Type Type	Short	Reserved	1- Non Persistent 2- Persistent
Throttle Time Interval	Short	Throttle time interval in number of milliseconds; applicable for field Transaction limit.	

1.1.50 User Logoff Request**Type of Message** : REQUEST**Description** : This message is sent when the user logs off from the New Trading system. In response to this request, the BOLTPLUS replies with the **LOGOFF REPLY**.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1132- Logoff Request
Password	Char (10+1)	Password taken during login process.	Password must be minimum 8 alphanumeric characters and Max length is 10 and alphanumeric characters.
Filler	Char	Filler	
Message Tag	Long	Message Tag	

1.1.51 User Logoff Reply**Type of Message** : REPLY**Description** : This is sent by the BOLTPLUS in response to a Logoff Request.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1132 – Logoff Reply
Reply Code	Short	Code indicating success of logoff	
Filler	Short	Filler	
Filler	Long	Reserved Field	
Reply Message	Char(39+1)	Explanation of reply code	
Message Tag	Long	Message Tag	

1.1.52 Log Off Notification:**Type of Message** : UMS**Description** : This is sent by the BOLTPLUS for Logoff.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1132 – Logoff UMS
Reply Code	Short	Code indicating success of logoff	
Filler	Long		
Reply Message	Char (39+1)	Explanation of reply code	

1.1.53 Change Password Request

Type of Message : REQUEST

Description : This request message is sent by the TPS when the user needs to change the password. The request contains both the old and the new passwords. When the password is expired NTA sends error code "218" in login reply, at that instance TPS should use Message Type "1133

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1133-Mandatory \ forceful change of password incase password expires. 1134-Optional change of Password.
Old Password	Char (10+1)	The old password which is being changed	
New Password	Char (10+1)	The new password	
Message Tag	Long	Message Tag	

1.1.54 Change Password Response

Type of Message : REPLY

Description : This is sent by the BOLTPLUS in response to change password request.

Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1133, 1134
Reply Code	Short	Success or failure	0= Success
Reply Text	Char (39 +1)		
Message Tag	Long	Message tag	

1.1.55 Personal Information Requests**Type of Message** : REQUEST

Description : This message is sent by the TPS to BOLTPLUS for recovery purpose. For trades it will be always full trade download, it will not consider incremental.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1095-Trades 1092 – Orders [For persistent order] 1097 – Query stop-loss order [For persistent order] 1170 – Query Return Order [For persistent order] 1173 – Query Return Stop-loss [For persistent order]
Hour	Char	Hour from which incremental data to be downloaded. In case of full download give time as 0	
Minute	Char	Minute from which incremental data to be downloaded. In case of full download give time as 0	
Second	Char	Seconds from which incremental data to be downloaded. In case of full download give time as 0	
Filler	Char	Filler	
Message Tag	Long	Message Tag	

1.1.56 Personal Information Replies**Type of Message** : REPLY

Description : This message is sent by the BOLTPLUS in response to the personal information request. It indicates the request was successfully processed or not.

Field Name	Type	Description	Values, meanings, Validations
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Message Type	Long	Type of message	Reply for 1095-Trades 1092 – Orders [For persistent order] 1097 – Query stop-loss order [For persistent order] 1170 – Query Return Order [For persistent order] 1173 – Query Return Stop-loss [For persistent order]
Reply Code	Short	Code indicating whether the request was successfully processed or not	0 if success
Message Tag	Long	Message Tag sent in information request.	

1.1.57 Trades Information

Type of Message : UMS
Description : This message contains Trades information for the trader.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message-1095	
No o Records	Long	Number of trades in this message. Each trade contains the following Details.	Max=10
This is a separate substructure within the message. Details of the substructure are as follows			
Instrument Code	Long		
Trade Id	Long	The transaction id of the trade	
Rate	Long	The rate for the trade	In paise
Qty	Long	Quantity of the trade	
Filler 1	Long	For Future use	
Reserved Field	Long	For Internal Use	
Year	Char	The Year at which this transaction was last modified	Year should be added with 1900 to get 4 Digit Year.
Month	Char	The Month at which this transaction was last modified	
Day	Char	The day at which this transaction was last modified	

Hour	Char	The Hour at which this transaction was last modified	
Minute	Char	The Minute at which this transaction was last modified	
Second	Char	The Second at which this transaction was last modified	
Client ID	Char (11+1)	Id of the client	
Order Type	Char	transaction type	'L' – Limit Order 'G' – Market Order
Buy or Sell	Char	Whether the Trade was for a Buy or Sell Transaction	'B' – Buy 'S' – Sell R – Recall E – Early Return
Participant code	Char (20)	The Participant Code	
Order Id	Long Long	Order Id of transaction that resulted in this trade.	
Message Tag	Long	Reference tag sent in the order request	
Flag	Long	Bitwise Order Type flag to differentiate the normal and stop-loss orders	
Client type	Short	Pre defined Client types	
Filler 2	Short	For Future Use	
Reserved Field	Long Long	For Internal Use	
Filler 3	Long Long	For Future Use	
Filler 4	Long	For Future Use	
Filler 5	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details on its usage

1.1.58 End of Information

Type of Message Description

: UMS

: This message is sent by the BOLTPLUS whenever it finishes sending transactions of a particular type (Order, Trades) of a trader. It indicates to the TPS that all transactions of that particular type have been downloaded.

Field Name	Type	Description	Values, meanings, Validations
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Message Type	Long	Type of message	1520 – End of Information
No of Records	Long	Total number of records of the particular transaction downloaded.	Used by the TPS to ensure, it has received all transactions sent.
Message Tag	Long	Message Tag sent at Query Download request.	

1.1.59 Market Data Info Request**Type of Message** : REQUEST

Description : This message is sent by the TPS to the BOLTPLUS for the detailed best current rates and statistics about the day's trading in particular scrip. IT provides detailed market picture data.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2111
Filler	Long	Filler	Filler
Reference Tag	Long	Internal reference tag which will be echoed back in the reply	
Security Code	Long	The security code for which the market data is required	

1.1.60 Market Data Info Response**Type of Message** : REPLY

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2111
Reference Tag	Long	Internal reference Tag that was sent in the request	
Reply Code	Short	Response code for the request sent	Success All value other than 0 is unsuccessful
Reserved Field	Short	For internal Use	
Instrument Code	Long	Instrument code of the Instrument for which data was requested	
Open Rate	Long	Opening rate of the Instrument	In paise.

Previous Close Rate	Long	Previous Closing rate of the Instrument	In paise. Previous day's close price in all sessions
High Rate	Long	Highest traded rate of the Instrument	In paise.
Low Rate	Long	Lowest traded rate of the Instrument	In paise.
No of Trades	Long	Number of trades took place during the day for the Instrument	The cumulative no. of trades during the day
Volume	Long	Total Traded qty during the day for the Instrument	The cumulative no. of shares traded during the day
Value	Long	Total Traded value during the day for the instrument	The cumulative value traded during the day
Last Trade Qty	Long	Quantity which got executed in the Last trade	The total quantity traded in the last trade
LTP	Long	Price at which last trade took place.	In paise. The traded rate in the last trade
Close Rate	Long	Close price once close price for the day is determined	The field will be populated once close price for the day is determined else it would be 0
Block Deal Reference Price	Long	Reference Price for entering the Block Deal order	This price to be used for placing Block deal order. The orders placed shall be within $\pm 1\%$ of the Block reference price in the respective windows as per timings specified by Exchange
Indicative Equilibrium Price	Long	Indicative EP price if determined in call auction order entry session	Indicative EP price if determined in call auction order entry session else it would be 0
Indicative Equilibrium Qty	Long	Indicative EP Quantity if determined in call auction order entry session	Indicative EP quantity if determined in call auction order entry session else it would be 0
Reserved field	Long Long	For future use	

Total Bid Qty	Long	Total Bid Qty	Total quantity present in the buy order book
Total Offer Qty	Long	Total Offer Qty	Total quantity present in the sell order book
Trade Value Flag	Char	Unit for value	'l' for lacs, 'c' for crores
Trend	Char	Up/down trend	'+' for up, '-' for down
Six Lakh Flag	Char	Indicates that Six Lakh Instrument code is active for this Instrument code	Values: 'Y' for active 'N' for not active
Reserved Field	Char		
Lower Circuit Limit	Long	Lower Circuit limit for Instrument	The lowest rate at which order can be placed during the day
Upper Circuit Limit	Long	Upper Circuit limit for Instrument	The highest rate at which order can be placed during the day
Weighted Average	Long	Weighted Average for Instrument	
Market Type	Short	The type of market	20-PCAS 0 – All other securities
Session Number	Short		Refer session table, section 2.4
LTP Hour	Char		
LTP Minute	Char		
LTP Second	Char		
LTP Millisecond	Char[3]		
Reserved Field	Char[2]		
Reserved Field	Short		
No of Price points	Short	"n" Number of Price points	Currently "n" = 5
Following sub-structure will repeat number of times as specified in the "No. of Price points" field above.			
Best Bid Rate	Long	Best bid rate in paise	
Total Bid Qty	Long	Total quantity available at best bid rate	
No. of Bid at the price points	Long	No. of Orders at the Buy Price point	
Filler	Long	For Future Use	
Best Offer Rate	Long	Best offer rate in paise	
Total Offer Qty	Long	Total quantity available at best offer rate	
No. of Ask at the price points	Long	No. of Orders at the Sell Price point	
Filler	Long	For Future Use	

1.1.61 Mass Cancellation Information Request:**Type of Message:** Request**Description** : This request message is sent by the TPS to BOLTPLUS for fetching mass cancellation information.

Field Name	Type	Description	Values, meanings, Validations
Message Type	long	Type of message	1087
Reference Tag	long	Reference tag which will be echoed back in the reply	
Filler	long	For Future use	
Filler	short	For Future use	
Filler	short	For Future use	

1.1.62 Mass Cancellation Information Reply**Type of Message:** Reply**Description** : This reply message is sent by the BOLTPLUS to TPS against the request for fetching mass cancellation info. The reply is an acknowledgment for the request. The actual data for the member will follow in the Mass cancellation information message [Message type 1087]

Field Name	Type	Description	Values, meanings, Validations
Message Type	long	Type of message	1087
Reference Tag	long	Reference Tag sent in the request	
Reply Code	short	Specifies whether the operation was successful or not	0 – Successful
Filler	short	For Future use	
Reply Text	char[39+1]		

1.1.63 Mass Cancellation Information**Type of Message** : UMS**Description** : The message indicates the cancellation of orders for a given scope. The mass cancellation notification will be sent for each product in which the orders are present. The product Id can be found in the Master file.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1087

LastFragment	Char	Indicates whether this message is the last fragment (part) of a sequence of messages belonging to one dedicated transaction.	<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Not Last Message</td></tr><tr><td>1</td><td>Last Message</td></tr></table>		Value	Description	0	Not Last Message	1	Last Message																								
			Value	Description																														
			0	Not Last Message																														
1	Last Message																																	
MassActionReason	Char		Reason for mass cancellation.																															
			<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>No Special Reason</td></tr><tr><td>1</td><td>Stop Trading</td></tr><tr><td>2</td><td>Emergency</td></tr><tr><td>3</td><td>Market Maker Protection</td></tr><tr><td>4</td><td>Stop Button Activated</td></tr><tr><td>5</td><td>Member Suspended</td></tr><tr><td>6</td><td>Session Loss</td></tr><tr><td>7</td><td>RRM [Collateral Exhaustion]</td></tr><tr><td>8</td><td>RRM [Regulatory]</td></tr><tr><td>9</td><td>RRM [MWPL]</td></tr><tr><td>10</td><td>Session Order Expiry</td></tr><tr><td>11</td><td>Day Order Expiry</td></tr><tr><td>105</td><td>Product Halt</td></tr><tr><td>107</td><td>Instrument Halt</td></tr></table>		Value	Description	0	No Special Reason	1	Stop Trading	2	Emergency	3	Market Maker Protection	4	Stop Button Activated	5	Member Suspended	6	Session Loss	7	RRM [Collateral Exhaustion]	8	RRM [Regulatory]	9	RRM [MWPL]	10	Session Order Expiry	11	Day Order Expiry	105	Product Halt	107	Instrument Halt
			Value	Description																														
			0	No Special Reason																														
			1	Stop Trading																														
			2	Emergency																														
			3	Market Maker Protection																														
			4	Stop Button Activated																														
			5	Member Suspended																														
			6	Session Loss																														
			7	RRM [Collateral Exhaustion]																														
			8	RRM [Regulatory]																														
			9	RRM [MWPL]																														
			10	Session Order Expiry																														
			11	Day Order Expiry																														
105	Product Halt																																	
107	Instrument Halt																																	
MassActionReportID	Char[19+1]	Transaction timestamp.	YYYY-MM-DD:HH:MM:SS																															
Pad2	Char[2]	Filler	not used																															
SecurityID	Long Long	Instrument identifier.																																
Product ID	Long	Product identifier.																																
Reservedfield	Long	Filler.	not used																															
Reservedfield	Long	Filler.	not used																															
Reservedfield	Long	Filler.	not used																															
PartitionID	Short	Grouping of BSE products. Belongs to the scope of Service Availability and Retransmit requests.																																

NoNot AffectedOrders	Short	Number of NotAffectedOrders repeating group instances.	Can have 500 records maximum. If the number of records count 0 indicates all the orders are cancelled and in such case the following substructure will not be sent.
Not affected order Details		This is a separate substructure within the message. Details of the substructure are as given below.	
NotAffectedOrderID	Long Long	Exchange Order ID of an order whose cancellation is pending.	
Filler	Long Long	Not in Use	

1.1.64 End of Mass Cancellation Information

Type of Message : UMS

Description : This message gives confirmation of End of Download message.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long		1088
No Of Records	Long	Total number of records sent	No. of records set to (-1) indicates the mass cancellation download request is not completed successfully. The member application should reattempt the download in such case.
Reference Tag	Long	Reference Tag sent in the request	

1.1.65 Incremental Trade Query

Type of Message: Request

Description : This request message is sent by the TPS to BOLTPLUS for fetching incremental trades.

Field Name	Type	Description	Values, meanings, Validations
Message Type	long	Type of message	1085
Reference Tag	long	Reference tag which will be echoed back in the reply	
Application Begin Sequence Number	long long	The sequence number from where the incremental trades are required. In case full trades are required the field should be set to no value	No Value= (0xFFFFFFFFFFFFFFFF)

Application End Sequence Number	long long	The sequence number upto which the incremental trades are required. In case full trades are required the field should be set to no value	No value=(0xFFFFFFFF FFFF)
Partition ID	short		The Partition ID for which the trade data is requested.
Reserved Field	short	For Internal Use	

1.1.66 Incremental Trade Response

Type of Message: Reply

Description : This reply message is sent by the BOLTPLUS to TPS against the request for fetching incremental trade info. The reply is an acknowledgment for the request. The actual data for the member will follow in the UMS message (message type 3521)

Field Name	Type	Description	Values, meanings, Validations
Message Type	long	Type of message	1085
Reference Tag	long	Reference Tag sent in the request	
Reply Code	short	Specifies whether the operation was successful or not	0 – Successful
ApplTotalMessage Count	short		Total number of messages included in transmission.
ApplEndSeqNum	long long		Ending range of application sequence numbers. If it is not set to the related request's ApplEndSeqNum, the client will have to send another recovery request (with an updated Application Begin Sequence Number). The response with no value" in this field would mean the requested data is not available.
RefApplLastSeqNum	long long		Last application sequence number known by the BSE system for PartitionID. The field with no value means that there is no data persisted for the requested partition

1.1.67 Trade Information 2[Trade Download]**Type of Message** : UMS**Description** : This message is sent by the BOLTPLUS whenever the request for trades is initiated..

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1085 Trade Information
No of Records	Long	Number of trade confirmations in this message. Each confirmation contains the following Trade Details, up to ten (10) trade confirmations can be sent in a message.	The maximum value of this field can be 10.
This is a separate substructure within the message. Details of the substructure are as given below.			
Instrument Code	Long	Instrument code for which trade has occurred	
Trade Id	Long	The Trade identifier of this trade.	
Rate	Long	The Rate at which this trade was executed.	In paise
Qty	Long	The Quantity which was executed.	
Pending Qty	Long	Remaining Qty	The quantity pending at exchange when this trade was generated
Reserved Field	Long	For Internal Use	
Year	Char	The Year on which the trade was executed.	Year should be added with 1900 to get 4 Digit Year
Month	Char	The Month on which the trade was executed.	
Day	Char	The Day on which the trade was executed.	
Hour	Char	The Hour on which the trade was executed.	
Minute	Char	The Minute on which the trade was executed.	
Second	Char	The Second on which the trade was executed.	
Client Id	Char (11+1)	The Client in the transaction, which was involved in the trade.	
Transaction Type	Char	The transaction type of the transaction which was involved in this trade	'L' – Limit Order 'G' – Market Order K- Block Deal

Buy or Sell	Char	Whether the Trade was for a Buy or Sell Transaction	'B' – Buy 'S' – Sell R- Recall E- Early Return
Reserve Field	Char (20)	For Future Use	
Order ID	Long Long	The Transaction Id of the Transaction, which was involved in this trade.	
Message Tag	Long	The reference tag sent in the order request	
Flag	Long	Bitwise Order Type flag to differentiate the normal and stop-loss orders	
Client Type	Short	Pre defined client types	
Partition ID	Short	The Partition ID to which this trade message belongs.	
ApplSeqNum	long long	The sequence number for this trade for a partition	
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.68 Trade Enhancement Request

Type of Message: Request

Direction : TPS to CTE

Description : This request message is sent by the TPS to BOLTPLUS for fetching given-up trades status which are either approved/rejected by custodian.

Field Name	Type	Description	Values, meanings, Validations
Message Type	long	Type of message	1080
Reference Tag	long	Reference tag which will be echoed back in the reply	

Application Begin Sequence Number	long long	The sequence number from where the incremental messages are required. In case full messages are required the field should be set to no value	No Value=(0xFFFFFFFFFFFFFFFF)
Application End Sequence Number	long long	The sequence number upto which the incremental messages are required. In case full messages are required the field should be set to no value	No value=(0xFFFFFFFFFFFFFFFF)
Partition ID	short		The Partition ID for which the trade data is requested.
Reserved Field	short	For Internal Use	

1.1.69 Trade Enhancement Response

Type of Message: Reply

Direction : CTE to TPS

Description : This reply message is sent by the BOLTPLUS to TPS against the request for fetching trade enhancement info.

The reply is an acknowledgment for the request. The actual data for the member will follow in the UMS message (message type 1080)

Field Name	Type	Description	Values, meanings, Validations
Message Type	long	Type of message	1080
Reference Tag	long	Reference Tag sent in the request	
Reply Code	short	Specifies whether the operation was successful or not	0 – Successful
AppTotalMessage Count	short		Total number of messages included in transmission.

ApplEndSeqNum	long long		Ending range of application sequence numbers. If it is not set to the related request's ApplEndSeqNum, the client will have to send another recovery request (with an updated Application Begin Sequence Number). The response with no value" in this field would means the requested data is not available.
RefApplLastSeqNum	long long		Last application sequence number known by the BSE system for PartitionID. The field with no value means that there is no data persisted for the requested partition

1.1.70 Trade Enhancement Notification

Type of Message: UMS

Direction : CTE to TPS

Description : This reply message is sent by the BOLTPLUS to TPS against the request for fetching trade enhancement info.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1080
Instrument Code	Long	Instrument identifier.	
TradePrice	Long	The Traded Price	
TransactTime	Long Long	Transaction timestamp In case of give up trades, this field shall reflect the take up transaction time, when approved by Custodian.	
OrderID	Long Long	Exchange Order ID generated by BSE System; it remains constant over the lifetime of an order.	

ApplSeqNum	long long	The sequence number for this trade enhancement message of a partition	
Trader ID	Long	The User ID	
Trade ID	Long	The Trade ID	
Product Identifier	Long	Product identifier	
Date	Long	Business day of the match event.	
Traded Qty	Long	The Traded Qty	
Client type	Short	Predefined client type values	Refer Section 4.4.6
Partition ID	Short	The partition of the instrument	
Buy/Sell flag	Unsigned Char	Order Mode	Valid Values B – BUY S- SELL
Acceptance Indicator	Char	The indicator if the trade is confirmed or rejected by the custodian	Y Accepted N Rejected
Participant Code	Char(12+1)		
Client Id	Char (11+1)	The Unique Client Code (UCC) of the person for whom the order is entered.	
Filler	Char		

1.1.71 Personal Orders/Block Deals UMS

Type of Message : UMS

Direction : CTE to TPS

Description : The UMS is sent to trader against the pending order query initiated by the user.

Dependency:

Request/Reply : 1092(Query on Orders)

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of message – 1092(Personal Orders)	

NoOfRecs	Long	Number of Orders in this message. Each Order contains the following Order_Details.	A maximum of 12 orders are sent in a message.
ORDER_DETAILS	This is a separate substructure within the message. Details of the substructure are as given below.		
ScripCode	Long	The scrip code of the scrip for which the Order was entered.	
OrderId	Long Long	The transaction id. Of the Order.	
Rate	Long	The rate entered for the order	In paise
OriginalQty	Long	The Original quantity entered for the order	
PendQty	Long	The quantity now pending for this order.	
Retention	Long	The retention status for this order.	
Msg Tag	Long	The Reference tag sent in the order request	
Trigger Rate	Long	The trigger rate sent in order request of an OCO order	For other orders, the field will have 0value.
Type	char	The type of the order that was entered.	'L' – Limit Order 'C' – IOC 'G' – Market Order 'O' – Oddlot order 'K' – Block Deals
BuyOrSell	char	Whether the order is to Buy or Sell	'B' – Buy 'S' – Sell R - Recall (Applicable for SLB) E – Early Return (Applicable for SLB)
Year	Char	The Year at which this transaction was last modified	Year should be added with 1900 to get 4 Digit Year
Month	Char	The Month at which this transaction was last modified	
Day	Char	The day at which this transaction was last modified	
Hour	Char	The Hour at which this transaction was last modified	
Minute	Char	The Minute at which this transaction was last modified	
Second	Char	The Second at which this transaction was last modified	

ClientId	Char (11+1)	The identifier of the client as entered by the trader.	
Flag	Long	Order Type to differentiate the normal and stop-loss orders	0 – For Limit and market orders i.e. L,G 1 - System triggered Stop-loss Orders 2- Stop-loss orders converted to normal orders by the user. For other Order type, the value would be same as sent by user in custodian field.
CAClass	Short	Predifned client type values	
MinQty	Long	Minimum quantity	
Location Id	Long long	Registered Location ID of the end-user who is placing the orders.	
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.72 Personal Return Orders**Type of Message** : UMS**Direction** : CTE to TPS**Description** : This UMS is sent against the query for the cancelled orders initiated by the user**Dependency:****Request/Reply** : 1170- Query Returned Orders

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of message-1170 (Return Orders)	
NoOfRecs	Long	Number of Orders in this message. Each Order contains the following Order_Details.	A maximum of 10 orders are sent in a message.

ORDER_DET AILS	This is a separate substructure within the message. Details of the substructure are as given below.		
ScripCode	Long	The scrip code of the scrip for which the Order was entered.	
OrderId	Long Long	The transaction id. Of the Order.	
Rate	Long	The rate entered for the order	In paise
OriginalQty	Long	The Original quantity entered for the order	
PendQty	Long	The quantity now pending for this order.	
Retention	Long	The retention status for this order.	
MsgTag	Long	The reference tag sent in the order request	
Last Trade ID	Long	The trade identifier of the last trade, which was executed against this order.	
Type	Char	The type of the order that was entered.	'L' – Limit Order 'G' – Market Order 'K' – Block Deal
BuyOrSell	Char	Whether the order is to Buy or Sell	'B' – Buy 'S' – Sell R - Recall (Applicable for SLB) E – Early Return (Applicable for SLB)
Year	Char	The Year at which this transaction was last modified	Year should be added with 1900 to get 4 Digit Year.
Month	Char	The Month at which this transaction was last modified	
Day	Char	The day at which this transaction was last modified	
Hour	Char	The Hour at which this Order was returned	
Minute	Char	The Minute at which this Order was returned	
Second	Char	The Second at which this Order was returned	
ClientId	Char (11+1)	The identifier of the client as entered by the trader.	

Flag	Long	Order Type to differentiate the normal and stop-loss orders	0 – For Limit and market orders i.e. L,G 1 - System triggered Stop-loss Orders 2- Stop-loss orders converted to normal orders by the user. For other Order type, the value would be same as sent by user in custodian field.
Client Type	Short	Predifned client type values	
Reserved	Long	For Internal use	
Location Id	Long long	Registered Location ID of the end-user who is placing the orders.	
Reserved Field	Long Long	For Internal Use	
NewFiller1	Long Long	For Future Use	
NewFiller2	Long	For Future Use	
NewFiller3	Long	For Future Use	
Reserved Field	Char (16)	For Internal Use	

1.1.73 Personel StopLoss UMS:

Type of Message : UMS
Direction : CTE to TPS
Description : This message is sent by the CTE after a member Query Request for StopLoss . Each message contains multiple stoploss orders.

Dependency:

Request/Reply : 1173- Query Return Stoploss
: 1097 – Query Personal Stoploss

Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of message	1173- Query Return Stoploss 1097 – Personal Stoploss
NoOfRecs	Long	Number of Records of pending stoploss orders.	Max Record 11

Details of SLORDERDETAILS: This Substructure consists following fields.

Name	Type	Description	Values, meanings, Validations
ScripCode	Long		
SIOrderId	Long Long	Transaction ID for Stop loss order	
Trgrate	Long	Rate at which Stoploss order will trigger	
LimRate	Long	Lim Rate for Stoploss to trigger	
Qty	Long	Total Qty	
AvaQty	Long	Avilable Qty	
Retention	Long	Retention Stautus	
Msg Tag	Long	Reference tag sent in the order	The tag when order was placed but if updated then the last updated order's tag.
Type	Char	Type of Order	
BuyorSell	Char	B-Buy,S-Sell	
Year	Char	Year At Which Order is entered	Year should be added with 1900 to get 4 Digit Year.
Month	Char	Month At Which Order is entered	
Day	Char	Day At Which Order is entered	
Hour	Char	Hour At Which Order is entered	
Minute	Char	Minute At Which Order is entered	
Second	Char	Second At Which Order is entered	
ClientId	Char (12)		
Market Protection	Long	Market Protection	
Client Type	Short	Predefined client type values	
Location Id	Long long	Registered Location ID of the end-user who is placing the orders.	
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details Applicable for message type 1097

Application Messages Order Handling

1.1.74 Add /Update /Delete Limit, Market & Stop-loss Order Request

Type of Message : REQUEST

Description : This request message is sent by the TPS to the BOLTPLUS when the user wants to **Add, update or delete a Limit, Market order or Stop loss order**. This request can also be used to convert the order type from Limit to Market

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of the Request	1025-Add/Update/ Delete of Limit, Market, stop-loss Order.
Instrument Code	Long	The instrument code for which the order is being updated	
Message Tag1	Long	Reference tag 1 to be used by TPS. This will be echoed back in the reply	
Qty	Long	For add the quantity should be absolute. For update the quantity should be incremental For Delete request the qty should be sent as 0	Should be Multiple of Mkt. Lot
Revealed Qty	Long	Quantity to be made visible in BBO	The quantity should be in absolute term
Limit Rate	Long	The rate at which the instrument is to be bought or sold. For market order the rate field should be sent 0	The rate should be in paisa Rate updation is not allowed for Market order. In case of Stop-loss orders <ul style="list-style-type: none"> If the rate is specified the order will be released to market on trigger as limit order If the rate is not specified the order will be released to market on trigger as market order

Trigger Rate	Long	Rate at which the stop-loss order should be triggered into the market	<p>The rate should be in paisa and Valid for Stop loss order and OCO orders</p> <p>In case of Stop-loss Orders</p> <ul style="list-style-type: none"> For Add Stop-loss Orders the trigger rate is mandatory. For Update Stop-loss order if Trigger rate is sent as 0 then the BOLTPLUS will convert the stop-loss order to normal limit or market order depending on the rate specified in limit rate field. <p>In case of OCO Orders</p> <ul style="list-style-type: none"> The order will be considered as OCO order If trigger price is specified for limit order. <p>For all other orders i.e. for limit /market/block deal orders, the field needs to be sent as 0</p>
Reserved Field	Long	For internal use	To be sent as 0
Reserved Field	Long	For internal use	To be sent as 0
Filler 1	Long	For Future use	To be sent as 0
Filler 2	Long	For Future use	To be sent as 0
Message Tag 2	Long	Reference tag 2 to be used by TPS. This will be echoed back in the reply	
Order Id	Long Long	It contains the order Id to be modified in case of updation and deletion request.	Order Id can be 19 digit or more
Location ID	Long Long	Registered Location ID of the end-user who is placing the orders.	Please refer Location ID section
Filler 3	Long	For Future use	To be sent as 0

STPC flag	Short	Preference for cancellation of order in case of self-trade is encountered.	Valid Values 0 – Passive 1 – Active The field value will not be considered by exchange for modification and deletion request. Any value sent in this field in modification and deletion request will be ignored and the value sent earlier in addition request for that order will be considered.
Filler 5	Short	For Future use	To be sent as 0
Client Id	Char (11+1)	The client code of the client	Client Id must be "OWN" for Client type OWN.
Participant Code	Char (12+1)	The Participant code to facilitate auto give-up of trade to the custodian	Only Valid Participant codes are allowed. In case auto give-up is not desired then application should send '\0' in this field. All existing applications which do not want to use this feature, should necessary send ' \0 ' in this field for Client type INST and SPCLI , Else it may result in rejection of the order. For other client types such as OWN and CLIENT the system will ignore the value sent in this field.
Message Tag 3	Char (14+1)	Reference tag 3 to be used by TPS. This will be echoed back in the reply	
Filler 6	Char(4)	For Future use	
Order Action Code	Unsigned Char	Add/Update/Delete	Valid Values A- Add Limit/Market Order U – Update of Limit/Market order D – Delete of limit/ Market order

Buy/Sell flag	Unsigned Char	Order Mode	Valid Values B – BUY S- SELL R – RECALL (Applicable for SLB only) E – EARLY RETURN(Applicable for SLB only)
Order Type	Unsigned Char	Order type	Valid values L – Limit Order G – Market Order P- Stop Loss Order K – Block Deal In case of update request used for conversion of order type from limit to market the flag should be sent as G
Execution Type	Unsigned Char	The execution behavior of an order.	1 – Book or Cancel Applicable for limit orders and non persistent users only.
Client type	Short	Predefined client type values	Refer Section 4.4.6
Market Protection	Short		Valid percentage range 0 to 20%. Or (-1) The values in this field should be in the basis point. Thus 1% should be sent as 100, 10.25% should be sent as 1025 and 20% should be sent as 2000. Values less than 0 or greater than 2000(20%) will result in a rejection. Exception is -1 For Market Order with no market protection, user should send (-100). For this first trade for that order is generated at the best rate which is available on counter side of the book. The order will be further matched till the exchange defined maximum market protection percentage.

Retention	Short	The retention status for this order i.e. expiry of the order	0 – immediate 1 – end of session 2 – end of today
Filler 8	Short	For Future use	To be sent as 0
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.75 Add Update Delete Limit/Market Order Reply**Type of Message** : REPLY

Description : This is the reply message sent in response to Limit/Market order Add/Update/Delete requests. The reply message contains the Order id and the status of the transaction after it was processed (i.e. success or failure).

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	Message Type-1025
Message Tag 1	Long	Reference tag 1 to be used by TPS. This will be echoed back in the reply	
Reply Code	Short	The Reply code indicates the outcome after the Request was processed	0 indicates success (+ve) number indicates error (-ve) number means warning
Filler	Short	For Future Use	
Cancelled Qty	Long		Total quantity cancelled for this order. If the request is unsuccessful, i.e for reply code other than 0 and -261, the quantity will be 0 Refer to section 4.4.4
Order ID	Long Long	The Order ID generated when it is added.	
Day	Char	The Day at which the order was received at the BOLTPLUS	
Month	Char	The Month at which the order was received at the BOLTPLUS	
Year	Char	The Year at which the order was received at the BOLTPLUS	Year should be added with 1900 to get 4 Digit Year

Hour	Char	The Hour at which the order was received at the BOLTPLUS	
Minute	Char	The Minute at which the order was received at the BOLTPLUS	
Second	Char	The Second at which the order was received at the BOLTPLUS	
Milli Second	Char(3+1)	The Millisecond at which the txn was received at the BOLTPLUS	
Order Action Code	Unsigned char	Order action code received in the request.	
Buy/Sell flag	Unsigned char	The buy sell flag received in the request	
Order Type	Unsigned char	The order type received in the request	In case of SL order converted to limit or market by the user , the converted order type i.e. L or G will be sent for successful orders
Filler 1	Char(3)	For Future Use	
Reply Text	Char (99+1)	Explanation of reply code field above.	
Filler	Char(2)	For Future Use	
Reserve Field	Char [12+1]	For Internal Use	
MsgTag3	Char [14+1]	Reference tag 3 received in the request	
MsgTag2	Long	Reference tag 2 received in the request	
Pending Qty	Long	The total open quantity at BE for this order	Remaining quantity of an order. If the order has been executed partially this field contains the non-executed quantity. A remaining size of 0 indicates that the order is fully matched or no longer active. Refer to section 4.4.4
Total Traded Quantity	Long	Cumulative traded qty for the order	Cumulated executed quantity of an order. It would be 0 for add request For Update/ delete request the field will contain the traded qty if any else it would be 0. Refer to section 4.4.4
Filler 3	Short	For Future Use	
Filler 4	Short	For Future Use	

Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.76 Add Update Block Deal Order Request

Type of Message : REQUEST

Description : This request message is sent by the TPS to the BOLTPLUS when the user adds or updates an Block Deal Order. After the message is processed, the BOLTPLUS replies with a **REPLY_MESSAGE**. For updation, the modifiable attributes are; **Rate, Quantity, Revealed Quantity, Retention and ClientId**.

Dependency:

Prior Message Type : 1131- Logon Reply

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of the Request	Valid for Equity only in Contineous session 1071- Add Buy Block Deal 1072- Add Sell Block Deal 1073- Update Buy Block Deal 1074 – Update Sell Block Deal
ScripCode	Long	The scrip code for which the order is being added or updated	
MsgTag	Long	Message Tag	
Qty	Long	For Add, the quantity of shares. For Update, amount of change and direction (+,-)of change. For odd lot the quantity should be in absolute value	Should be Multiple of Mkt. Lot

AvaQty	Long	Actual (Revealed) Qty in the Market. For block deal (Aval Qty) Revealed Qty should be same as Qty	
Rate	Long	The rate at which the scrip is to be bought or sold	For Limit / Odd Lot / All/ None orders: Should be multiple of paise.
OrderId	Long Long	For add requests this is zero, for update requests, it contains the ordered to be modified.	
ClientId	Char (11+1)	The client code if entered by the user, otherwise it contains null	Client must be "OWN" for CAClass OWN.
Retention	Short	The retention status for this order	0 – immediate (Not allowed in opening session) 1 – end of session 2 – end of today
MiniQty	Long	Minimum fill quantity	Default send as 0
CustCode	Long	Code number for custodian	Default send as 0
CAClass	Short	Predifned client type values	
Location Id	Long long	Registered Location Id of the end-user who is placing the orders.	
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.77 Delete Instrument Request

Type of Message : REQUEST

Description : This request message is sent by the TPS to the BOLTPLUS when the user deletes an block deal instrument . After the message is processed, the BOLTPLUS replies with **ORDER_REPLY**.

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Message type	Valid for Equity only 1075- Delete Buy Block Deal 1076- Delete Sell Block Deal
ScripCode	Long	The scrip code for which the transaction is being deleted.	
MsgTag	Long	Message Tag value, which will be received in reply of this message.	
Transaction Id	Long Long	This contains the transaction identifier of the transaction, which is to be deleted.	Valid Transaction Id Given in reply
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.78 Add Update Delete Transactions Reply

Type of Message : REPLY

Description : This is the reply message sent in response to all **Add, Update, Delete** requests. The reply message contains the transaction id and the status of the transaction after it was processed (i.e. success or failure).

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of message	Reply for – 1071- Add Buy Block Deal 1072- Add Sell Block Deal 1073- Update Buy Block Deal 1074 – Update Sell Block Deal 1075 – Delete Buy Block Deal 1076 – Delete Sell Block Deal
MsgTag	Long	Message tag received same as the sent in Request.	
ReplyCode	Short	The Reply code indicates the outcome after the Request was processed	0 indicates success (+ve) number indicates error (-ve) number means warning

RateDiff	Short	Difference in rate of original as against accepted for market orders. Not used for Quote.	
Transaction Id	Long Long	The Order ID generated when it is added.	
Day	Char	The Day at which the order was received at the CTE	
Month	Char	The Month at which the order was received at the CTE	
Year	Char	The Year at which the order was received at the CTE	Year should be added with 1900 to get 4 Digit Year
Hour	Char	The Hour at which the order was received at the CTE	
Minute	Char	The Minute at which the order was received at the CTE	
Second	Char	The Second at which the order was received at the CTE	
Reply Text	Char (99+1)	Explanation of error or warning.	
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.79 Multi Leg Order Request

Type of Message : REQUEST

Direction : TPS to CTE

Description : This request message is sent by the TPS to the CTE to add a multi leg order.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of the Request	2025
Location Id	Long Long	Registered Location ID of the end-user who is placing the orders	
Order Reference tag	Long Long	Reference tag to be used by TPS. This will be echoed back in the response and in trades.	

Client Type	Short	Predefined Client Type	
Number of Legs	Short	Number of Legs needs to be defined	Minimum 2 and Maximum 4
All None Flag	Char	If full quantity execution is required	Y- Full Execution only N- Full or Partial Execution
Client ID	Char (11+1)	The client code of the client	Client Id must be "OWN" for Client type OWN.
Participant Code	Char(12+1)	The Participant code for the institutional orders	Only Valid Participant codes are allowed. In case auto give-up is not desired then application should send '0' in this field. All existing applications which do not want to use this feature, should necessary send ' /0 ' in this field for Client type INST and SPCLI , Else it may result in rejection of the order. For other client types such as OWN and CLIENT the system will ignore the value sent in this field.
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details
Leg Substructure			
Instrument Code	Long	The instrument code for which the order is being added	
Order Qty	Long	The required order quantity	Should be Multiple of Mkt. Lot
Price	Long	The rate at which the scrip is to be bought or sold. For market order the rate field should be sent 0.	For equity derivatives the rate should be in paisa. For Currency Derivatives the rate should be in bps
Leg Reference tag	Long	Reference tag to be used by TPS. This will be echoed back in the response and in trades	
Market Protection	Short	Applicable for market order	Valid percentage range 0 to 20%.

Buy/Sell flag	Unsigned Char	Order Mode	Valid Values B – BUY S- SELL
Order Type	Unsigned Char	Type of order	L – Limit Order G – Market Order

1.1.80 Multi Leg Order Reject

Type of Message : REPLY

Direction : CTE to TPS

Description : This is the reject message sent in response to multieleg order request.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of the Request	2026
Order Reference tag	Long Long	Reference tag sent in the request.	
Gateway in Timestamp	Long Long	The time when the request was accepted by the Gateway. The Timestamp is in UTC format	
Gateway out Timestamp	Long Long	The time when the response was sent by the Gateway. The Timestamp is in UTC format	
Instrument Code	Long	The instrument code for which the order is being added	
Reason Code	Long	The reason code for rejection of the multi leg order	
ReasonText Length	Short	Number of chars for field "Reason Text"	Max 2000
Reason Text	Char	Reject Reason	Max 2000 bytes

1.1.81 Multi Leg Order Execution Report

Type of Message : Reply

Direction : CTE to TPS

Description : This is the reply message sent in response to multi leg order request if the

Order is executed.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of the Request	2027
Gateway in Timestamp	Long Long	The time when the request was accepted by the Gateway. The Timestamp is in UTC format	
Matching Engine In Timestamp	Long Long	The time when the request was accepted by the Matching Engine from gateway . The Timestamp is in UTC format	
Matching Engine Out Timestamp	Long Long	The time when the response was sent by the Matching Engine to gateway . The Timestamp is in UTC format	
Gateway out Timestamp	Long Long	The time when the response was sent by the Gateway. The Timestamp is in UTC format	
Location Id	Long Long	Registered Location ID of the end-user who is placing the orders	Location Id
Order Reference tag	Long Long	Reference tag sent in the request.	
Execution Timestamp	Long Long	The time of Execution of multileg order. The timestamp is in UTC format	
Last Fragment	Short		Indicates whether this message is the last fragment (part) of a sequence of messages belonging to one dedicated transaction. 0- Not Last Fragment 1- Last Fragment
No. Execution Summary Details	Short	This field specifies the number of instrument details present in the Execution summary substructure	Max 4

No. of Fills	Short	This field specifies the number of instrument details present in the Fill Group substructure	Max =100
No of Leg Exection	Short	This field specifies the number of instrument details present in the leg execution group substructure. Applicable only if the multileg contain a spread instrument, Not applicable for simple contracts. The value will be 0 for simple contracts	Max = 600
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details
Execution Summary Substructure			
Exchange Order ID	Long Long	The exchange order ID for the instrument	
Instrument Code	Long	The instrument code for which the order is being added	
Cumulative traded quantity	Long	Total quantity traded for the order	
Cancelled Quantity	Long	The quantity cancelled for this order	
Leg Reference tag	Long	Leg reference tag sent in the request.	
Reason	Short		101 –Order Added 105 –IOC Cancelled 246 –Self Trade Order Deleted
Order Status	Short	Conveys the current status of the order	2 - Filled 4- Cancelled
Execution Type	Short	Reason why this message is generated	4- Cancelled F - Trade
Fill group substructure			
Instrument Code	Long	The instrument code for which the order is being added	
Rate	Long	The rate in paise at which this trade was executed	

Execution ID	Long	The identifier of this trade. This field will be present in the leg trades. This can be used for reconciliation of execution with trades on real time basis	
Leg Reference tag	Long	Leg reference tag sent in the request.	
Traded Qty	Long	The quantity traded in this fill	
Leg execution group substructure (Applicable for Spread contract only)			
Leg Instrument Code	Long	The Leg instrument code for which the order is being added	
Leg Rate	Long	The rate in paise/ bps at which this trade was executed	
Leg Traded Qty	Long	The quantity traded in this fill	
Leg Execution ID	Long	The identifier of this trade. This field will be present in the leg trades. This can be used for reconciliation of execution with trades on real time basis	
Leg Order Mode	Unsigned Char		B- BUY S - SELL
No Fills Index	Short	Reference to the corresponding Fill Group substructure	

1.1.82 Mass Quote Request

Type of Message: Request

Direction : TPS to CTE

Description : This request is sent by the TPS application to provide both side orders in an instrument.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1040

Order Reference tag	Long Long	Reference tag to be used by TPS. This will be echoed back in the response and in trades.	
Product identifier	Long	Product identifier.	
Location ID	Long Long	The location ID of the order from where it is originated	
Client type	Short	Predefined client type values	Refer Section 4.4.6
Client Id	Char (11+1)	The client code of the client	Client Id must be "OWN" for Client type OWN.
Participant Code	Char(12+1)	The Participant code for institution orders	
STPC flag	Char	Preference for cancellation of order in case of self-trade is encountered.	Valid Values 0 – Passive 1 – Active The field value will not be considered by exchange for modification and deletion request. Any value sent in this field in modification and deletion request will be ignored and the value sent earlier in addition request for that order will be considered.
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details
Quote Size Type	Short	The modification Type	1 Total Size (Modification) 2 Open Size(Entry)
No of Entries	Short	The number of entries	
Cardinality: 0-30, Record counter: No of Entries			
Instrument ID	Long	The instrument code for which the order is being updated	
Message Tag	Long	User defined free field. The field is echoed in the trade notifications,	
Filer	Long		
Bid Price	Long	Bid price/rate.	

Offer Price	Long	Offer price/rate.	
Bid Size	Long	Quantity of bid.	
Offer Size	Long	Quantity of offer.	

1.1.83 Mass Quote Response

Type of Message : Response

Direction : CTE to TPS

Description : This message is sent by the CTE to the TPS application against the mass quote request.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1041
Order Reference tag	Long Long	Customer defined Quote identifier which was sent in the Mass Quote request.	
Response ID	Long Long	Response identifier generated by the exchange.	
Product Identifier	Long	Product identifier.	
No of Rejected Entries	Short	The number of rejected entries for a MM	
Cardinality: 0-30, Record counter: No of Entries			
Instrument ID	Long	The instrument code for which the order is being updated	
Bid Cancel Size	Long	Quote quantity that has been cancelled on the buy side.	
Offer Cancel Size	Long	Quote quantity that has been cancelled on the sell side.	

MM Entry Reject Reason	Long		1 Unknown Security 6 Duplicate Quote 8 Invalid Price 16 No Reference Price Available 100 No Single Sided Quotes 103 Invalid Quoting Model 106 Invalid Size 107 Invalid Underlying Price 108 Bid Price Not Reasonable 109 Ask Price Not Reasonable 110 Bid Price Exceeds Range 111 Ask Price Exceeds Range 115 Instrument State Freeze 116 Cancellation Already Pending 117 Pre Trade Risk Session Limit Exceeded 118 Pre Trade Risk BU Limit Exceeded 131 Incompatible Instrument State
Quote Entry Status	Short		0 Accepted with warning 5 Rejected 6 Removed Quote in book and Rejected 10 Pending

1.1.84 Quote Mass Cancellation Request

Type of Message : Request

Direction : TPS to CTE

Description : This message is sent by the the TPS to CTE to cancel Quotes

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1043
Reference Tag	Long Long	The identifier for the message which will be echoed back in the response	
Product ID	Long	Product identifier.	

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1.1.85 Quote Mass Cancellation Response

Type of Message : Response
Direction : CTE to TPS
Description : This message is sent by the CTE to TPS against the cancel Quote request

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1044
Reference Tag	Long Long	The identifier for the message which will was sent in the request	
Mass Action Report ID	Long Long	The transaction Timestamp	
No. Not Affected Instruments	Short		
Last Message	Char	Indicates the end of sequence of messages	0-Not Last Message 1-Last Message
Filler	Char		
Cardinality: 0-200, Record counter: No. Not Affected Instruments			
Not Affected Instrument ID	Long	Instrument ID whose mass cancellation or activation is pending	

1.1.86 Quote Mass Cancellation Notification

Type of Message : UMS
Direction : CTE to TPS
Description : This message is sent by the the CTE informing about the mass cancellation

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1045
Mass Action Report ID	Long Long	Transaction timestamp.	
Instrument Code	Long	The instrument code for which the order is being updated	
Product identifier.	Long	Product identifier.	

Target PartyID SessionID	Long	Session ID.	
No. NotAffected Instruments	Long	Number of Not Affected Instruments repeating group instances.	
Mass Action Reason	Short		0 No Special Reason 1 Stop Trading 2 Emergency 3 Market Maker Protection 4 Stop Button Activated 5 Business Unit Suspended 6 Session Loss
PartyID Entering Firm	Short		1 Participant 2 Market Supervision
Target PartyID DeskID	Char(3)	Trader Group.	
Last Message	Char	Indicates the end of sequence of messages	0-Not Last Message 1-Last Message
Cardinality: 0-200, Record counter: NoNotAffectedInstruments			
Not Affected Instrument ID	Long		

1.1.87 Quote Cancellation Notification

Type of Message : UMS

Direction : CTE to TPS

Description : This message is sent by the CTE informing about the individual quote cancellation

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1039
Exec ID	Long	UTC Timestamp	Transaction timestamp.

Last Fragment	Short		Indicates whether this message is the last fragment (part) of a sequence of messages belonging to one dedicated transaction. 2- Not Last Fragment Last Fragment
Number of Quote Events	Short		Number of Quote Event repeating group instances
Repeating Fields Max 100 times			
Order Id	Long Long	Exchange Order ID generated by BSE System;	
Location Id	Long Long	Registered Location ID of the end-user who is placing the orders	Location Id
Instrument ID	Long	The instrument code for which the order is being updated	
Message Tag	Long	User defined free field. The field is echoed in the trade notifications,	
Quote Price	Long	Price of this fill.	
Quote Qty	Long	Qty of the Fill	
Quote ExecID	Long	Trade Id	
Quote Type	Short		3 Removed Quote Side 4 Partially Filled 5 Filled
Quote Liquidity	Short		1 Added Liquidity 2 Removed Liquidity
Quote Reason	Short		14 Pending Cancellation Executed 15 Invalid Price 16 Self Trade Quote Deleted 17 Reverse Trade Quote Deleted 18 Client RRM Quote Deleted
Client Type	Short		
Client ID	Char (11+1)	The client code of the client	Client Id must be "OWN" for Client type OWN.

Participant Code	Char(12+1)	The Participant code for the institutional orders	<p>Only Valid Participant codes are allowed. In case auto give-up is not desired then application should send '0' in this field.</p> <p>All existing applications which do not want to use this feature, should necessary send '0' in this field for Client type INST and SPCLI , Else it may result in rejection of the order.</p> <p>For other client types such as OWN and CLIENT the system will ignore the value sent in this field.</p>
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details
Buy Sell Flag	Char		
Filler	Char (2)		

1.1.88 Quote Reject

Type of Message : Response

Direction : CTE to TPS

Description : This is an optional message which is sent by the CTE to TPS in case of reject of any quote request

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1049
Reference Tag	Long Long	The identifier for the message which will be echoed back in the response	
Reject Reason	Long		
ReasonText Length	Short	Number of chars for field "Reason Text"	Max 2000
Reason Text	Char	Reject Reason	Max 2000 bytes

Application Messages Others

1.1.89 Trade Notification

Type of Message : UMS

Description : This message is sent by the BOLTPLUS whenever trades occur for a trader.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1521-Trade Confirmation
No of Records	Long	Number of trade confirmations in this message. Each confirmation contains the following Trade Details, up to ten (10) trade confirmations can be sent in a message.	The maximum value of this field can be 10.
This is a separate substructure within the message. Details of the substructure are as given below.			
Instrument Code	Long	Instrument code for which trade has occurred	
Trade Id	Long	The Trade identifier of this trade.	
Rate	Long	The Rate at which this trade was executed.	In paise
Qty	Long	The Quantity which was executed.	
Pending Qty	Long	Remaining Qty	The quantity pending at exchange when this trade was generated
Reserved Field	Long	For Internal Use	
Year	Char	The Year on which the trade was executed.	Year should be added with 1900 to get 4 Digit Year
Month	Char	The Month on which the trade was executed.	
Day	Char	The Day on which the trade was executed.	
Hour	Char	The Hour on which the trade was executed.	
Minute	Char	The Minute on which the trade was executed.	
Second	Char	The Second on which the trade was executed.	
Client Id	Char (11+1)	The Client in the transaction, which was involved in the trade.	

Transaction Type	Char	The transaction type of the transaction which was involved in this trade	'L' – Limit Order 'G' – Market Order K- Block Deal Q - Quotes
Buy or Sell	Char	Whether the Trade was for a Buy or Sell Transaction	'B' – Buy 'S' – Sell R – Recall E- Early Return
Participant Code	Char (20)	The Participant code sent in the order request	
Order ID	Long Long	The Transaction Id of the Transaction, which was involved in this trade.	
Message Tag	Long	The reference tag sent in the order request	
Flag	Long	Bitwise Order Type flag to differentiate the normal and stop-loss orders	
Client Type	Short	Pre defined client types	
Filler 1	Short	For Futur Use	
Reserved Field	Long Long	For Internal Use	
Filler 2	Long Long	For Future Use	
Filler 3	Long	For Future Use	
Filler 4	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.90 IOC Kill Quantity Notification

Type of Message : UMS

Description : The message contains, among other things the quantity that was unexecuted ('Killed'). This message is sent even if the order is fully executed with quantity as 0.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1531-IOC Kill Quantity Notification
Instrument Code	Long	The instrument code of this message	

Order Id	Long Long	The order id of the killed order	
Killed Qty	Long	The unexecuted quantity of the order which was killed.	If the entire quantity was executed, this will be 0.
Filler	Long		
Message Tag	Long		

1.1.91 Market to Limit Conversion Notification**Type of Message** : UMS**Description** : This message is sent by the BOLTPLUS when a Market order is converted to a limit order.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1530-Convert Market Order to Limit Order.
Instrument Code	Long	Instrument code of the market order	
Order Id	Long Long	Order id of the market order	
Message Tag	Long		
Converted Rate	Long	Rate (in paise) at which the order was converted to limit order.	

1.1.92 Trade Notification 2 [Real-time]**Type of Message** : UMS**Description** : This message is sent by the BOLTPLUS whenever trades occur for a trader.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	3521-Trade Notification
No of Records	Long	Number of trade confirmations in this message. Each confirmation contains the following Trade Details, up to ten (10) trade confirmations can be sent in a message.	The maximum value of this field can be 10.
This is a separate substructure within the message. Details of the substructure are as given below.			
Instrument Code	Long	Instrument code for which trade has occurred	

Trade Id	Long	The Trade identifier of this trade.	
Rate	Long	The Rate at which this trade was executed.	In paise
Qty	Long	The Quantity which was executed.	
Pending Qty	Long	Remaining Qty	The quantity pending at exchange when this trade was generated
Reserved Field	Long	For Internal Use	
Year	Char	The Year on which the trade was executed.	Year should be added with 1900 to get 4 Digit Year
Month	Char	The Month on which the trade was executed.	
Day	Char	The Day on which the trade was executed.	
Hour	Char	The Hour on which the trade was executed.	
Minute	Char	The Minute on which the trade was executed.	
Second	Char	The Second on which the trade was executed.	
Client Id	Char (11+1)	The Client in the transaction, which was involved in the trade.	
Transaction Type	Char	The transaction type of the transaction which was involved in this trade	'L' – Limit Order 'G' – Market Order K- Block Deal Q- Quotes
Buy or Sell	Char	Whether the Trade was for a Buy or Sell Transaction	'B' – Buy 'S' – Sell R – Recall E- Early Return
Participant Code	Char (20)	The Participant code sent in the order request	
Order ID	Long Long	The Transaction Id of the Transaction, which was involved in this trade.	
Message Tag	Long	The reference tag sent in the order request	
Flag	Long	Bitwise Order Type flag to differentiate the normal and stop-loss orders	
Client Type	Short	Pre defined client types	

Partition ID	Short	The Partition ID to which this trade message belongs.	
ApplSeqNum	long long	The sequence number for this trade for a partition	
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.93 Stop-Loss Trigger Order Notification

Type of Message

: UMS

Description

: This UMS is sent by the BOLTPLUS to inform TPS for stop loss or OCO being triggered.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long		2507
Instrument Code	Long		
Order Id	Long Long	Transaction Id	
Rate	Long	Rate at which Stoploss order will execute	In paise
Qty	Long	Total Qty	
Filler	Long	For Future Use	
Msg Tag	Long	For Future Use	
Filler	Char	For Future Use	
BuyorSell	Char	For Future Use	
Day	Char	Day At Which Order is entered	
Month	Char	Month At Which Order is entered	
Year	Char	Year At Which Order is entered	Year should be added with 1900 to get 4 Digit Year.
Hour	Char	Hour At Which Order is entered	
Minute	Char	Minute At Which Order is entered	
Second	Char	Second At Which Order is entered	
Filler	Char (11+1)	For Future Use	

Stop loss Trigger Flag	Long	Trigger reason	1 2	-System Trigger i.e. order triggered automatically when the trigger price is reached. OCO order Triggered.
Client Type	Short	For Future Use		
Filler	Short	For Future Use		
Location Id	Long long	For Future Use		

1.1.94 Risk Reducing Mode Notification

Type of Message : UMS

Description : This UMS serves multiple purposes i.e. gives Pre-RRM entry notification and RRM orders confirmations/ rejections. The Event field in the structure determines the purpose of the UMS. All the fields in the structure may not be relevant for all purpose. The relevance of the field will be determined by the Event field value.

Field Name	Data Type	Description	Values, meanings
Message Type	Long	Type of message	1920
No Of Records	Short		Max= 4
Reserve Field	Short	For internal use	
RRM NOTIFICATION_ DETAILS	This is a separate substructure within the message. The substructures will repeat number of times mentioned in the “No. of records” fields above. Details of the substructure are as given below.		
Instrument Code	Long	The instrument code for which the order is being added or updated	Applicable for Event value 0,1,2
Rate	Long	The rate at which the scrip is to be bought or sold	In Paisa Applicable for Event value 0,1,2
Quantity	Long	Quantity as sent by BE and displayed to user	Applicable for Event value 0,1,2
Available Qty	Long		Applicable for Event value 0,1,2
Order Tag	Long	Message tag sent in the request	Applicable for Event value 0,1,2
Reserve Field	Long	For Internal Use	
Filler	Long	For future use	
Filler1	Long	For Future Use	

Event	Short		0: RRM order is accepted successfully 1: RRM order is rejected by the system 2: Update order request of RRM order could not be completed.
Error Code	Short		Applicable for Event value 0,1,2
Retention	Short		Applicable for Event value 0,1,2
Filler	Short		
Order Id	Long Long	The Order ID generated when it is added.	Applicable for Event value 0,1,2
Value	Long Long	Total Collateral available	Applicable for Event value 3,4.
Utilized Value	Long Long	Utilized collateral value	Applicable for Event value 3,4.
RRM Value	Long Long	Value to be reduced to be out of RRM	Applicable for Event value 3,4.
Utilization Percentage	Long Long	Utilized percentage	Applicable for Event value 3,4.
Year	Char	The Year on which the order was accepted.	
Month	Char	The Month on which the order was accepted.	
Day	Char	The Day on which the order was accepted.	
Hour	Char	The Hour on which the order was accepted.	
Minute	Char	The Minute on which the order was accepted.	
Second	Char	The Second on which the order was accepted.	

Add/Update Flag	Char(2)	This is used for Add/Update flag	Possible value for Add request 'A' and for Update request 'U'
Filler2	Char(2)	For Future Use	
Type	Char(2)	Order Type	
Message	Char(40)	Description of the Event.	
Participant Code	Char(13)	Custodian Participant Code	Applicable for Event value 0,1,2
Filler3	Char(3)	For Future Use	
Client Id	Char(12)	Client Id which is sent in the request	Applicable for Event value 0,1,2
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.95 Capital Information Notification

Type of Message : UMS

Description : This UMS is sent to the traders on real time basis whenever the capital utilization exceeds beyond defined thresholds. This UMS is also sent against the Query request sent by the user.

Field Name	Type	Description	Values, meanings, Validations
Message Type	long	Type of message	1922
Reference Tag	long	Reference Tag sent in capital Request. The field is applicable only for Request. In case of Real time UMS the field would be 0	
No of Records	short	Number of records in one packet	Max = 5
Alert Type	short	Indicates if it is a real time UMS or UMS sent against the request sent for capital.	0=Real-time UMS 1=Request UMS
Reserved Filed	short	For Internal Use	
Filler 1	short	For Future use	

Field Name	Type	Description	Values, meanings, Validations
		The substructure is as given below. This sub structure will repeat up to the No. specified in No of Records field	
Member Code	long	Member Code	Member code for which the alert was generated
Reserved field	long	For Internal use	
Filler 2	long	For Future use	
Percentage Utilized	long	Percentage of utilized collateral for CM/TM, this field will be multiplied by 100.	Value should be multiplied by 100 Eg: 7000 means 70%
Total Collateral	long long	Total collateral for CM /TM, this field will be sent in paisa E.g.: 100000 means 1000 Rs	In case of request from Trader, the field will be 0
Utilized Collateral	long long	Utilized collateral for CM/TM ,this field will be sent in paisa E.g.: 100000 means 1000 Rs	In case of request form Trader, the field will be 0
Unutilized Collateral	long long	Unutilized collateral for CM/TM ,this field will be sent in paisa E.g.: 100000 means 1000 Rs	In case of request form Trader, the field will be 0
Filler 4	long long	For Future use	
Filler1	Short	For Future use	
Increase/ Decrease status	Short	Indicates increase or decrease in utilization compared with previous utilization	0=Increase 1=Decrease This field is only applicable for field "Alert Type" having value 0. Will be 0 for request response
Member Status	Short	Status of member with respect to capital utilization	0 = Active 1= In RRM 2 = Out of RRM The value 2 is applicable only for real time UMS and not query.
Reserved Field	Short	For Internal use	
Filler 5	Short	For Future use	
Filler 6	Short	For Future use	
Filler 7	Short	For Future use	
Filler 8	Short	For Future use	

Field Name	Type	Description	Values, meanings, Validations
Market Type / Segment Type	Char	Market type or segment type	1= Equity 2 = Equity Derivatives 3 = Currency Derivatives 4 = SLB 6 - Commodities
Reserved Field	Char	For Internal use	
Reserved Field	Char	For Internal use	
Member Type	Char		0=CM Alert 1= TM Alert
Reserved Field	Char	For Internal use	
Year	Char	The Year at which this transaction was last modified	
Month	Char	The Month at which this transaction was last modified	
Day	Char	The day at which this transaction was last modified	
Hour	Char	The Hour at which this transaction was last modified	
Min	Char	The Minute at which this transaction was last modified	
Sec	Char	The Second at which this transaction was last modified	
Filler	Char	For Future use	
Message	Char[40]	For Internal use	
Reserved field	Char[13]	For Internal use	
Reserved field	Char[12]	For Internal use	
Filler 9	Char[3]	For Future use	

1.1.96 Broker Suspension Notification

Type of Message : UMS

Description: This message is sent by the BE to the TPS when Broker is suspended. The Market Flag will indicate the segment/market a member is suspended.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	24004
Filler	Long	Future Use	
Day	Char		
Month	Char		
Year	Char		Year should be added with 1900 to get 4 Digit Year.

Hour	Char		
Minute	Char		
Second	Char		
Market Flag	Char (2)		"C" – For Equity Market "F" – For Equity Derivatives Market "A" - For Currency Derivatives Market E - Commodities
Reason	Char (79+1)	Message Text	

1.1.97 Member Reactivation

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	MessageType	1528–Member Reactivation UMS
Filler	Long	Filler	
Message	Char (79+1)	Message of Reactivation.	The message will be “ Cap utilization decreased: Moved back to Normal mode in equity
Filler	Long	Filler	
Filler	Long	Filler	

1.1.98 Mass Cancellation Notification

Type of Message : UMS

Description: The message indicates the cancellation of orders for a given scope. The mass cancellation notification will be sent for each product in which the orders are present. The product Id can be found in the Master file.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1927

LastFragment	Char	Indicates whether this message is the last fragment (part) of a sequence of messages belonging to one dedicated transaction.	Value		Description
			0	Not Last Message	
			1	Last Message	
MassActionReason	Char		Reason for mass cancellation.		
			Value		Description
			0	No Special Reason	
			1	Stop Trading	
			2	Emergency	
			3	Market Maker Protection	
			4	Stop Button Activated	
			5	Member Suspended	
			6	Session Loss	
			7	RRM [Collateral Exhaustion]	
			8	RRM [Regulatory]	
			9	RRM [MWPL]	
			10	Session Order Expiry	
			11	Day Order Expiry	
			105	Product Halt	
107	Instrument Halt				
MassActionReportID	Char[19+1]	Transaction timestamp.	YYYY-MM-DD:HH:MM:SS		
Pad2	Char[2]	Filler	not used		
SecurityID	Long Long	Instrument identifier.			
Product ID	Long	Product identifier.			
Reservedfield	Long	Filler.	not used		
Reservedfield	Long	Filler.	not used		
Reservedfield	Long	Filler.	not used		

PartitionID	Short	Grouping of BSE products. Belongs to the scope of Service Availability and Retransmit requests.	
NoNot AffectedOrders	Short	Number of NotAffectedOrders repeating group instances.	Can have 500 records maximum. If the number of records count 0 indicates all the orders are cancelled and in such case the following substructure will not be sent.
Not affected order Details		This is a separate substructure within the message. Details of the substructure are as given below.	
NotAffectedOrderID	Long Long	Exchange Order ID of an order whose cancellation is pending.	
Filler	Long Long	Not in Use	

1.1.99 Cancelled Order UMS

Type of Message

: UMS

Description

: This message is sent by the BOLTPLUS whenever the orders are cancelled by the Exchange. The message may contain multiple cancelled orders.

The cancellation can take place for orders of Special Pre Open which are not eligible for continuous session due to order price out side the price band.

Orders of PCAS which are not matched in the PCAS matching session

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	3233
No of Records	Long	Number of orders	The maximum value of this field can be 14.
ORDER DETAILS		The substructure is as given below. This sub structure will repeat up to the No. specified in No of Records field.	
Instrument Code	Long	Instrument code for which order was placed	
Message Tag	Long	Reference Tag for the actual order	
Quantity	Long	Order Quantity returned	

Reason	Long	Reason Code for the cancellation action done by Exchange.	– Refer Section Error codes for Cancelled Order UMS[3233]
Filler 1	Long	Reserved Field	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Filler 4	Long	For Future Use	
Order ID	Long Long	Order ID of the Order	
Year	Char	The Year at which the order was cancelled at the BOLTPLUS	
Month	Char	The Month at which the order was cancelled at the BOLTPLUS	
Day	Char	The Day at which the order was cancelled at the BOLTPLUS	
Hour	Char	The Hour at which the order was cancelled at the BOLTPLUS	
Minute	Char	The Minute at which the order was cancelled at the BOLTPLUS	
Second	Char	The Second at which the order was cancelled at the CTE	
Filler5	Char	For Future Use	
Filler6	Char	For Future Use	
Filler7	Char	For Future Use	
Filler 8	Char(14 +1)	Reserved Field	

1.1.100 Returned Orders/Block Deals UMS**Type of Message** : UMS

Description : When a scrip or user is suspended, orders are returned to the traders in the following format by the BOLTPLUS. Traders will also receive 1853, when the respective admin delete their orders.. Validity of block deal is

for specified interval of time. This return block deal UMS will also be received when block deal is returned

Field Name	Type	Values, meanings, Validations
MsgType	Long	1853-Returned Orders UMS 1856 – Return Block Deal UMS
NoOfRecs	Short	Max of 39
Details of Returned Orders		
Scrip Code	Long	Code of scrip
Order Id	Long Long	id of order
Pending Qty	Long	Quantity pending
Cancelled Quantity	Long	The quantity cancelled for this order
Filler	Long	For future use
Msg Tag	Long	
Filler	Long	For Future use
CAClass	Short	

1.1.101 Position Limit Notification

Type of Message : UMS

Description : This UMS is sent to the Trading Member whenever the TM's MWOL in any product of an asset exceeds the defined thresholds. Currently the thresholds are defined as 70 %, 80 %, 90 % and 100%. The UMS is also sent to the member when the member/ client position in any product of an asset exceeds the defined thresholds or the member is suspended for Regulatory reasons. Additionally the message will be sent when ever member moves in RRM due to regulatory reason or if the member is suspended.

Field Name	Data Type	Description	Values, meanings
Message Type	Long	Type of message	1921
No Of Records	Short		Max= 4
Reserve Field	Short	For internal use	
Position Limit NOTIFICATION_ DETAILS	This is a separate substructure within the message. The substructures will repeat number of times mentioned in the “No. of records” fields above. Details of the substructure are as given below.		
Product ID	Long	For Future Use.	The product for which MWPL RRM message is generated. For alert type 3 and 4 the product id will be set to 0

Alert Type	Long	The field indicates the Type of alert.	1= RRM [MWPL for TM] 2= RRM [MWPL for Client] 3= Member Suspension 4= RRM [Regulatory] 5 = Warning [MWPL] 6 = RRM [MWPL for member in near month]
Percentage	Long	Applicable percentage.	Value should be multiplied by 100 Ex. 10.23 =1023 Applicable for alert type 5
Filler 1	Long	For Future Use	
Filler 2	Long	For Future Use	
Reserve Field	Long	For Internal Use	
Segment Type	Long	Indication of Segment/Asset Class	1 = Equity 2= Equity Derivatives 3= Currency Derivatives (full segment) 4= Currency Asset Class (CDX) 5= Interest Rate Asset Class (IRD) 6 = Commodities
Filler 3	Long	For Future Use	
Duration	Short	Duration	Applicable duration for the warning Possible values 1 – Near 2 - Mid 3 - Far
RRM state	Short		Following values are applicable for alert type 1,2,4 and 5 0= No RRM 1=In RRM Mode 2= Out of RRM Mode Following values are applicable for alert type 3 3 = Suspended 4 = Activated

Filler 5	Short	For Future Use	
Filler	Short	For Future Use	
Filler 7	Long Long	For Future Use	
Filler 8	Long Long	For Future Use	
Filler 9	Long Long	For Future Use	
Filler 10	Long Long	For Future Use	
Filler 11	Long Long	For Future Use	
Year	Char	The Year on which the alert was sent	
Month	Char	The Month on which the order was accepted.	
Day	Char	The Day on which the alert was sent	
Hour	Char	The Hour on which the alert was sent	
Minute	Char	The Minute on which the alert was sent	
Second	Char	The Second on the alert was sent	
Increase/ Decrease status	Char(2)	Increase or Decrease status of position limits compared to previous limits. In case of RRM Alert this filed would be set to Null	Valid Values “>” – If the Position limit has increased compared to previous limits. “<” – If the Position limit has decreased compared to previous limits Applicable For alert type 5
Filler13	Char(2)	For Future Use	
Filler14	Char(2)	For Future Use	
Message	Char(40)	Description of the Event.	
CP Code	Char(13)		
Filler15	Char(3)	For Future Use	

Client Id	Char(12)	Client Id which for which the alert is generated.	Applicable for Alert Type 2
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1.1.102 Trade Enhancement Notification

Type of Message: UMS

Description : This UMS message is sent by the BOLTPLUS to TPS whenever there is confirmation/rejection of trades by custodian.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1532
Instrument Code	Long	Instrument identifier.	
TradePrice	Long	The Traded Price	
TransactTime	Long Long	Transaction timestamp. In case of give up trades, this field shall reflect the take up transaction time, when approved by Custodian.	
OrderID	Long Long	Exchange Order ID generated by BSE System; it remains constant over the lifetime of an order.	
ApplSeqNum	long long	The sequence number for this trade enhancement message of a partition	
Trader ID	Long	The User ID	
Trade ID	Long	The Trade ID	
Product Identifier	Long	Product identifier	
Date	Long	Business day of the match event.	
Traded Qty	Long	The Traded Qty	
Client type	Short	Predefined client type values	Refer Section 4.4.6
Partition ID	Short	The partition of the instrument	
Buy/Sell flag	Unsigned Char	Order Mode	Valid Values B – BUY S- SELL

Acceptance Indicator	Char	The indicator if the trade is confirmed or rejected by the custodian	Y Accepted N Rejected
Participant Code	Char(12+1)		
Client Id	Char (11+1)	The Unique Client Code (UCC) of the person for whom the order is entered.	
Filler	Char		

1.1.103 Trader wise Limits Request

Type of Message : Request

Description : This request is sent for downloading Trader wise Limits.
Trader wise limit are set by the admin using the ZT Terminal

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long		Type of message-22002
MsgTag	Long		

1.1.104 Trader wise Limits Reply

Type of Message : Reply

Description : This message type will give you the details of trader wise limits.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message-22002	
Reply Code	Short	Indicates whether request was successful or not	0 – Successful
Message Tag	Long		
Reply Text	Char(39+1)	Backend message, contains error message incase ReplyCode is non-zero	
Trader Id		Trader Id	
Alias	Char(11+1)	Name	
Filler	Long	For Internal Use	
BXActionId	Long	Binary encoded allowed transactions for Badla	Default 0

Gross Buy Limit	Long	Allowed buy limit in Lakhs	To be checked before submission of every order and updated after every Order/Trade. When this limit is exceeded all buy orders must be rejected. E.g. Value 100 received in to be considered as 100 L
Gross Sell Limit	Long	Allowed sell limit in Lakhs	To be checked before submission of every order and updated after every Order/Trade. When this limit is exceeded all sell orders must be rejected E.g. Value 100 received to be considered as 100 L
Net Value	Long	Net Value of trader in Lakhs	Must be checked before submission of every order and updated after every Order/Trade. When this limit is exceeded all orders must be rejected E.g. Value 100 received to be considered as 100 L
Net Buy Qty	Long	Specifies a Buy quantity limit for all scrips whose scripwise limits have not been explicitly set	This value must be checked before submission of every buy order on that scrip and updated after every buy Order/Trade on that scrip. When this limit is exceeded all buy orders on that scrip must be rejected
Net Sell Qty	Long	Specifies a Sell quantity limit for all scrips whose scripwise limits have not been explicitly set	This value must be checked before submission of every sell order on that scrip and updated after every sell Order/Trade on that scrip. When this limit is exceeded all sell orders on that scrip must be rejected
Reserved Field	Long	For Internal Use	

Reserved Field	Long	For Internal Use	
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1.1.105 Trader wise limit Information

Type of Message : UMS
Description : This message is sent when the Admin changes the trader-wise limits of a trader in ZT Terminal. This message will be received by the concerned trader.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message-22001	
Message Tag	Long		
Alias	Char(11+1)	Name	
Reserved Field	Long	For internal use	
BXActionId	Long	Binary encoded allowed transactions for Badla	Default 0
Gross Buy limit	Long	Allowed buy limit in Lakhs	E.g. Value 100 received in the UMS to be considered as 100 L
Gross Sell Limit	Long	Allowed sell limit in Lakhs	E.g. Value 100 received in the UMS to be considered as 100 L
Net Value	Long	Net Value of trader in Lakhs	E.g. Value 100 received in the UMS to be considered as 100 L
Default Buy Quantity	Long	Specifies a Buy quantity limit for all scrips whose scripwise limits have not been explicitly set	
Default Sell Quantity	Long	Specifies a Sell quantity limit for all scrips whose scripwise limits have not been explicitly set	
Reserved Field	Long	For Internal Use	
Reserved Field	Long	For Internal Use	

1.1.106 Scrip wise limits Request

Type of Message : Request
Description : This request is sent for downloading of Scrip wise Limits of a trader. Scrip wise limit are set by the admin using the ZT Terminal.

Dependency:-
UMS : 22005-Scrip Wise limit Download
End of Download : 22015

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of message-22005	
MsgTag	Long		
Reserved Field	Long	For Internal Use	

1.1.107 Scrip Wise limits Reply**Type of Message** : Reply**Description** : This message gives detail of Limits of a requested trader.**Dependency:-****Ums** : 22005-Scrip Wise limit Download**End of Download** : 22015

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of message-22005	
ReplyCode	Short	Specifies whether the operation was successful or not	0 – Successful
MsgTag	Long		
ReplyText	Char (39+1)		

1.1.108 Scrip wise limits Information**Type of Message** : UMS**Description** : This message gives the Scrip wise Trader limits detail along with each scrip details**Dependency:****Request/Reply** : 22005-Scripwise Limits Request

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of Message-22005	
MsgTag	Long		
NoOf Recs	Long	Number of records sent in this packet	Maximum 50 records.
ScripDetails – This is a sub-structure showing details of the scrip wise limits and will be repeated maximum 50 times in a packet.			
Scripcode	Long		
Scrip Buy Limit	Long	Total buy quantity	Checked and updated as mentioned above for DefaultBuy
Scrip Sell Limit	Long	Total Sell quantity	As above

1.1.109 End of Scrip wise limit information

Type of Message : UMS
Description : This message gives confirmation of End of DownLoad message.
Dependency:
Request/Reply : 22005-ScripWise Limits DownloadRequest

Note: If NoOfRecs field has value as '-1' then it indicates that all previously assign individual scripwise limit has been removed.

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of Message-22015	
NoOf Recs	Long	Total number of records sent	
MsgTag	Long		

1.1.110 Scrip wise limit change Information

Type of Message : UMS
Description : This message is sent when the Admin terminal changes the Scrip-wise limits of a trader. This message will be receives by the concerned trader.

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of Message	Message Type 22006
MsgTag	Long		
NoOf Recs	Long	Number of records sent in this packet	Maximum 50 records.
ScripDetails – This sub-structure will be repeated maximum 50 times for ScripWise limit.			
Scripcode	Long	Scrip Code	
ScripBuyLimit	Long	Total buy quantity	Checked and updated as mentioned above for DefaultBuy
ScripSellLimit	Long	Total Sell quantity	As above for Sell Limit

1.1.111 Group Wise limits Request

Type of Message : Request
Description : This message is used to request the group wise limit applicable for a trader.

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long	Type of message-22012	

MsgTag	Long		
Target Trader ID	Long	The trader id whose group wise limit needs to be queried	The TPS traders must query for their own trader id. Even if they send some invalid trader ID then IML will internally change it to the proper trader id and query for the same.

1.1.112 GroupWise limits Reply

Type of Message : Reply

Description : This request is sent for downloading GroupWise (Scrip) Limits for a trader

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of Message	22012
Reply Code	Short	Specifies whether the operation was successful or not	0 – Successful
Message Tag	Long	Reference tag	The reference tag sent in the request
Reply Text	Char (39+1)		
No Of Recs	Long	Total number of records sent	
Group Wise Limit Details – This is sub-structure array of size 50			
Group Name	Char (2+1)	Scrip Group	Either A,B,DF,F,G,R,S,T, TS,Z or any new group published in scripmaster
Buy Value	Long Long	Buy value for Group In lakhs	Checked and updated as above for buy order on any scrip of that group. Buy Orders on scrips on that group should be rejected once this limit is exceeded. E.g. Value 100 received to be considered as 100 L
Sell Value	Long Long	Sell value for Group In lakhs	Checked and updated as above for sell order on any scrip of that group. Sell Orders on scrips on that group should be rejected once this limit is exceeded. E.g. Value 100 received to be considered as 100 L

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1.1.113 Group wise limit change information

Type of Message : UMS
Description : This message is sent when the Admin terminal changes the Group wise limits of a trader. This message will be received by the connected trader.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of Message-22016	
Message Tag	Long	Reference tag	The reference tag sent in the request
No Of Recs	Long	Total number of records sent	
Group Wise Limit Details – This is sub-structure array of size 50			
Group Name	Char (3+1)	Scrip Group	
Buy Value	Long Long	Buy value for Group In Lakhs s	E.g. Value 100 received in the UMS to be considered as 100 L
Sell Value	Long Long	Sell value for Group In Lakhs	E.g. Value 100 received in the UMS to be considered as 100 L

Broadcast Message

1.1.114 Time Broadcast [2001]

Type of Message : Broadcast

Description : This message is sent by the BOLTPLUS to the TPS after every 1 minute. Multiple packets for the same time are sent to compensate the loss of packets.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2001- Time Broadcast
Reserved Field	Long		
Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	
Minute	Short	Time : MM	
Second	Short	Time : SS	
Millisecond	Short	Time : sss	
Reserved Field	Short		
Reserved Field	Short		
Reserved Field	Short		
Reserved Field	Char		
Reserved Field	Char		
Reserved Field	Char[2]		

1.1.115 Session Change Broadcast [2002]

Type of Message : BROADCAST

Description : This broadcast is sent by the BOLTPLUS whenever there is a change in session. Each session is represented using a unique session number. The session number is specific to a market type. The session broadcast message will be sent multiple times to compensate the loss of packet if any.

In case of Currency Derivatives segment each session broadcast message will have Product ID information also in the message. In Currency Derivatives segment the Session broadcast will be sent for each product ID separately, The Trading session value sent in the

message will be confined to the Product ID in the message. The Other Products session do not change till the message is received for those products independently.

Field Name	Type	Description	Values , meanings, Validations
Message Type	Long	Type of message	2002 (Session Change) 2003 – Auction session broadcast
Reserved Field	Long		
Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	
Minute	Short	Time : MM	
Second	Short	Time : SS	
Millisecond	Short	Time : sss	
Product ID	Short	The instrument group identifier	Applicable for Currency Derivatives segment only.
Reserved Field	Short		
Filler	Short	For Future Use	
Market Type	Short	Type of market running in the segment	
Session Number	Short	The current trading session	Refer Section Trading sessions for possible values
Reserved Field	Long		
Start End Flag	Char	Indication for start or End of session	S – Start of Session E – End of Session Not applicable for Equity Derivative market currently
Reserved Field	Char		
Reserved Field	Char[2]		

1.1.116 Market Picture Broadcast [2020]

Type of Message : BROADCAST

Description : This message is used to inform about the detailed market picture of Instruments during continuous trading sessions. Each message contains market picture for maximum of 6 Instruments

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2020-Market picture Broadcast

Reserved Field	Long		
Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	
Minute	Short	Time : MM	
Second	Short	Time : SS	
Millisecond	Short	Time : sss	
Reserved Field	Short		
Reserved Field	Short	Reserved Field	
No of Records	Short	No. of market picture records sent	This can have a maximum of 6 records
Following is a market picture structure appearing repeatedly (Max 6 times)			
Instrument Code	Long	Instrument code of the Instrument for which Touchline details are being sent.	
Open Rate	Long	Opening rate of the Instrument.	In paisa.
Previous Close Rate	Long	Previous Closing rate of the Instrument	In paisa. Previous day's close price in all sessions
High Rate	Long	Highest traded rate of the Instrument	In paisa.
Low Rate	Long	Lowest traded rate of the Instrument	In paisa.
No of Trades	Long	Number of trades took place during the day for the Instrument	The cumulative no. of trades during the day
Volume	Long	Total Traded qty during the day for the Instrument	The cumulative no. of shares traded during the day
Value	Long	Total Traded value during the day for the instrument	The cumulative value traded during the day
Last Trade Qty	Long	Quantity which got executed in the Last trade	The total quantity traded in the last trade
LTP	Long	Price at which last trade took place.	In paisa. The traded rate in the last trade
Close Rate	Long	Close price for the current day once close price for the day is determined in closing session	The field will be populated once close price for the day is determined else it would be 0

Block Deal Reference Price	Long	Reference Price for entering the Block Deal order	This price to be used for placing Block deal order. The orders placed shall be within $\pm 1\%$ of the Block reference price in the respective windows as per timings specified by Exchange
Indicative Equilibrium Price	Long	For Future Use	
Indicative Equilibrium Qty	Long	For Future Use	
Timestamp	Long Long	Time at which the market data was generated at Exchange	The time is in Julian format.
Total Bid Qty	Long	Total Bid Qty	Total quantity present in the buy order book
Total Offer Qty	Long	Total Offer Qty	Total quantity present in the sell order book
Trade Value Flag	Char	Unit for value	'l' for lacs, 'c' for crores
Filler	Char	For Future Use	
Reserved Field	Char	For internal use	
Reserved Field	Char		
Lower Circuit Limit	Long	Lower Circuit limit for Instrument	The lowest rate at which order can be placed during the day
Upper Circuit Limit	Long	Upper Circuit limit for Instrument	The highest rate at which order can be placed during the day
Weighted Average	Long	Weighted Average for Instrument	
Market Type	Short	The type of market	
Session Number	Short		
LTP Hour	Char	Hour at which Last trade took place	
LTP Minute	Char	Minute at which Last trade took place	
LTP Second	Char	Second at which Last trade took place	
LTP Millisecond	Char[3]	Millisecond at which Last trade took place	
Reserved Field	Char[2]		
Reserved Field	Short		
No of Price points	Short	"n" Number of Price points	Currently "n" = 5
Following sub-structure will repeat number of times as specified in the "No. of Price points" field above.			
Best Bid Rate	Long	Best bid rate in paise	

Total Bid Qty	Long	Total quantity available at best bid rate.	<p>In case of equity derivatives and currency derivatives the total quantity will include the implied quantity if it is available.</p> <p>Total Bid Qty = Actual Order qty + Implied Quantity</p> <p>The implied quantity is applicable for the best price point only.</p>
No. of Bid at the price points	Long	No. of Orders at the Buy Price point	<p>It will always show the number of actual orders in the order book. It will not consider the orders contributing towards implied price.</p> <p>It will be 0 in case only implied quantity is available at the best price point.</p>
Implied Buy Quantity	Long	The quantity implied at the best price point of this contract due to orders in other related contracts.	<p>If only implied quantity is available at the best price point then total quantity field and implied quantity field will be same.</p> <p>If no implied quantity is available at the best price point then implied quantity field will be 0.</p>
Best Offer Rate	Long	Best offer rate in paise	

Total Offer Qty	Long	Total quantity available at best offer rate	<p>In case of equity derivatives and currency derivatives the total quantity will include the implied quantity if it is available.</p> <p>Total Offer Qty = Actual Order qty + Implied Quantity</p> <p>The implied quantity is applicable for the best price point only.</p>
No. of Ask at the price point	Long	No. of Orders at the Sell Price point	<p>It will always show the number of direct orders in the order book. It will not consider the orders contributing towards implied price.</p> <p>It will be 0 in case only implied quantity is available at the best price point.</p>
Implied Sell Quantity	Long	The quantity implied at the best price point of this contract due to orders in other related contracts.	<p>The implied quantity is applicable for the best price point only</p> <p>If only implied quantity is available at the best price point then total quantity field and implied quantity field will be same.</p> <p>If no implied quantity is available at the best price point then implied quantity field will be 0.</p>

1.1.117 Close Price Broadcast**Type of Message** : BROADCAST**Description** : This message is used to inform the Closing Prices of Instrument during the Closing Price calculation sessions. Each message contains closing prices for 80 Instrument's

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2014-Close Price Broadcast
Reserved Field	Long		
Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	
Minute	Short	Time : MM	
Second	Short	Time : SS	
Millisecond	Short	Time : sss	
Reserved Field	Short		
Reserved Field	Short	For Internal Use	
No of Records	Short	Number of Instruments in this message	Maximum up to 80 records.
This is a substructure within the message. There can be as many as 80 occurrences of this substructure. Each occurrence of the substructure contains close price for Instrument.			
Instrument Code	Long	Instrument code for which open/close price is given	
Price	Long	The open/close price for the Instrument	In paisa
Reserved Field	Char	For Internal Use	
Traded	Char	Traded Today (Applicable for Closing Broadcast-2014)	Y- Yes N- No
Precision Indicator	Char	Price precision Indicator. The close price to be considered as 2 or 4 decimal	2 – 2 decimal precision 4 – 4 decimal precision
Reserved Field	Char		

1.1.118 Sensex Broadcast [2011]**Type of Message** : Broadcast**Description** : All indices information is broadcasted using the message 2011 or 2012. The indices sent in message type 2011 will not be sent in 2012 and vice-versa during a trading day.

Field Name	Type	Description	Values, meanings, Validations
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Message Type	Long	Type of message	2011- Sensex Detail Broadcast
Reserved Field	Long		
Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	
Minute	Short	Time : MM	
Second	Short	Time : SS	
Millisecond	Short	Time : sss	
Reserved Field	Short		
Reserved Field	Short	Not in use	
No. Of Records	Short	Number of records	Max =24
The following details will be repeated (Max 24 times)			
Index Code	Long	The Index Code assigned to this index.	Is an Index code of an Index calculated at the CTE
Index High	Long	Index High Value for the day.	
Index Low	Long	Index Low Value for the day.	
Index Open	Long	Index Open Value.	
Previous Index Close	Long	Previous Index Close Value	
Index Value	Long	Index Current Value in Continuous session and Today Close Index Value in Closing Session	
Index ID	Char (6+1)	The Index Identifier of the index for which values are being sent.	SENSEX
Reserved Field	Char	For Internal Use	
Reserved Field	Char		
Reserved Field	Char		
Reserved Field	Char[2]		

Reserved Field	Short		
Reserved Field	Short		

1.1.119 All Indices Broadcast [2012]**Type of Message** : Broadcast

Description : All indices information is broadcasted using the message 2011 or 2012. The indices sent in message type 2011 will not be sent in 2012 and vice-versa during a trading day.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2012 – All Indices Broadcast
Reserved Field	Long		
Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	
Minute	Short	Time : MM	
Second	Short	Time : SS	
Millisecond	Short	Time : sss	
Reserved Field	Short		
Reserved Field	Short	Not in use	
No. of Records	Short	Number of records	Max =24 It will contain all indices information except index code 1
The following details will be repeated. (Max 24 times).			
Index Code	Long	The Index Code assigned to this index.	Is an Index code of an Index calculated at the CTE
Index High	Long	Index High Value for the day.	
Index Low	Long	Index Low Value for the day.	
Index Open	Long	Index Open Value.	
Previous Index Close	Long	Yesterday Index Closed Values.	

Index Value	Long	Index Current Value in Continuous session and Today Close Index Value in Closing Session	
Index ID	Char (6+1)	The Index Identifier of the index for which values are being sent.	
Reserved Field	Char	For Internal Use	
Reserved Field	Char		
Reserved Field	Char		
Reserved Field	Char[2]		
Reserved Field	Short		
Reserved Field	Short		

1.1.120 Var Percentage Broadcast [2016]

Type of Message : Broadcast

Direction : CTE to TPS

Description : VAR Percentages Broadcast message will be sent by CTE in a specific interval. The latest Instrument wise VAR and ELM VAR Percentages will be sent by CTE.

Field Name	Type	Description	Values, meanings, Validations
Message Type	long	Type of message	2016 – Var Percentage Broadcast
Reserved Field	Long		
Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	
Minute	Short	Time : MM	
Second	Short	Time : SS	
Millisecond	Short	Time : sss	
Reserved Field	Short		
Reserved Field	Short	For Internal Use	

No. of Records	Short	Number of records	Maximum of 40 records.
The following details will be repeated. (Max 40 Instruments VAR and ELM VAR Percentages).			
Instrument code	Long		
VAR/IM Percentage	Long		VaR percentage in case of Equity Eg: The value will be in bps
ELM VAR Percentage	Long		ELM percentage in case of Equity Eg. The value will be in bps
Reserved Field	Long		
Reserved Field	Short		
Reserved Field	Short		
Reserved Field	Char	For Internal Use	
Identifier	Char	Identifier is used to identify the market for which the message is sent	E = Equity
Reserved Field	Char[2]		

Note: If the VAR and ELMVAR values received from the CTE are 975 and 1425, it means that the VAR percentage and the ELMVAR percentage are 9.75% and 14.25% respectively.

1.1.121 Open Interest Broadcast

Type of Message Description : Broadcast
: Open Interests Broadcast message will be sent by BOLTPLUS in a specific interval for the Derivatives instrument listed in the Exchange. The broadcast will be sent whenever there is change in the OI of an instrument. The OI will be additionally sent for all contracts multiple times during the day irrespective if there was any change in the OI. The Open Interest Value, and Change in Open Interest fields of respective derivatives instrument will be sent with other following details.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2015 – Open Interest Broadcast
Reserved Field	Long		

Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	
Minute	Short	Time : MM	
Second	Short	Time : SS	
Millisecond	Short	Time : sss	
Reserved Field	Short		
Reserved Field	Short	For Internal Use	
No. Of Records	Short	Number of records	This can have a maximum of 26 records.
The following details will be repeated. (Max 26 times).			
Instrument Id	long	Instrument Id of the Instrument for which Open Interest details are being sent	
Open Interest Quantity	long		
Open Interest Value	long long		In paisa.
Open Interest Change	long		
Reserved Field	Char(4)		
Reserved Field	Long		
Reserved Field	Short		
Reserved Field	Short		
Reserved Field	Char	For Internal Use	
Reserved Field	Char		
Reserved Field	Char[2]		

1.1.122 RBI Reference Rate

Type of Message : Broadcast
Description : This message is used to disseminate the reference rate published by RBI for foreign exchange. The rate is published multiple times during the day. The date field specifies the date for which the rate is applicable. This field can be used to identify if the new rate is published by RBI.

Field Name	Type	Description	Remarks
Message Type	Long	Type of message	2022
Reserved Field	Long		
Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	The hour part of time when the message was sent from the exchange
Minute	Short	Time : MM	The minute part of time when the message was sent from the exchange
Second	Short	Time : SS	The second part of time when the message was sent from the exchange
Millisecond	Short	Time : sss	The millisecond part of time when the message was sent from the exchange
Reserved Field	Short		
Reserved Field	Short	For Internal Use	
No. Of Records	Short	Number of records	Indicates the number of times the following sub structure will repeat
The following sub-structure will repeat no. of times as specified in the number of records field above.			
Underlying Asset Id	Long	The underlying Asset	600 – USD 601 – GBP 602- JPY 603 - EUR
RBI Rate	Long	The reference rate in bps	The rate should be divided by 10000 to get rate in decimal

Reserved Field	Short	For future use	
Reserved Field	Short	For future use	
Date	Char(11)	The date for which the reference rate is applicable.	Format of the field DD-MM-YYYY
Filler	Char(1)	Pad	

1.1.123 News Headline Broadcast (2004)**Type of Message** : BROADCAST**Direction** : CTE to TPS**Description** : This message informs about the News entered at the CTE(Announcement Data or notices).

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2004- News Broadcast
Reserved Field	Long		
Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	
Minute	Short	Time : MM	
Second	Short	Time : SS	
Millisecond	Short	Time : sss	
Reserved Field	Short		
Reserved Field	Short		
Reserved Field	Short		
News Category	Short	The category of this news.	
Reserved Field	Short		
News Id	Long	The news identifier of this news	
News Headline	Char (39+1)	The actual news headline.	
Reserved Field	Char	For Internal Use	
Reserved Field	Char		
Reserved Field	Char[2]		

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Debt Market

Exchange has proposed clean price trading for the fixed income securities and in this regards, new messages are introduced for order management services which additionally has specific relevant information. The trading will be supported on clean price which will have 4 decimal precision. These messages are additional messages and the existing messages will also continue to support the trading in fixed income securities. However, if the existing messages are used for order management services then the prices will have be considered for 2 decimal precision only. Also the user will not be able to get the additional segment specific information such as Yield and Dirty price.

Hence it is mandatory that members who would are active in debt trading and trade in securities on which clean price is allowed, should switch to these new messages. The scrips on which clean price trading and dirty price trading shall be allowed will be provided in the SCRIP master file with an identifier.

1.1.124 Debt Order Request

Type of Message : REQUEST

Description : This request message is sent by the TPS to the BOLTPLUS when the user wants to **Add, update or delete a Limit, Market order or Stop loss order for debt segment**. This request can also be used to convert the order type from Limit to Market

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of the Request	1050 -Add/Update/ Delete of Limit, Market, stop-loss Order.
Instrument Code	Long	The instrument code for which the order is being updated	
Message Tag1	Long	Reference tag 1 to be used by TPS. This will be echoed back in the reply	
Qty	Long	For add the quantity should be absolute. For update the quantity should be incremental For Delete request the qty should be sent as 0	Should be Multiple of Mkt. Lot
Revealed Qty	Long	Quantity to be made visible in BBO	The quantity should be in absolute term

Limit Rate	Long	The rate at which the instrument is to be bought or sold. For market order the rate field should be sent 0	<p>The rate should be in basis points i.e. 4 decimal precision.</p> <p>Rate updation is not allowed for Market order.</p> <p>In case of Stop-loss orders</p> <ul style="list-style-type: none"> • If the rate is specified the order will be released to market on trigger as limit order • If the rate is not specified the order will be released to market on trigger as market order
Trigger Rate	Long	Rate at which the stop-loss order should be triggered into the market	<p>The rate should be in basis points i.e. 4 decimal precision. and Valid for Stop loss order and OCO orders</p> <p>In case of Stop-loss Orders</p> <ul style="list-style-type: none"> • For Add Stop-loss Orders the trigger rate is mandatory. • For Update Stop-loss order if Trigger rate is sent as 0 then the BOLTPLUS will convert the stop-loss order to normal limit or market order depending on the rate specified in limit rate field. <p>In case of OCO Orders</p> <ul style="list-style-type: none"> • The order will be considered as OCO order If trigger price is specified for limit order. <p>For all other orders the field needs to be sent as -2147483648</p>
Reserved Field	Long	For internal use	To be sent as 0
Reserved Field	Long	For internal use	To be sent as 0
Filler 1	Long	For Future use	To be sent as 0
Filler 2	Long	For Future use	To be sent as 0

Message Tag 2	Long	Reference tag 2 to be used by TPS. This will be echoed back in the reply	
Order Id	Long Long	It contains the order Id to be modified in case of updation and deletion request.	Order Id can be 19 digit or more
Location ID	Long Long	Registered Location ID of the end-user who is placing the orders.	Please refer Location ID section
Filler 3	Long	For Future use	To be sent as 0
STPC flag	Short	Preference for cancellation of order in case of self-trade is encountered.	<p>Valid Values</p> <p>0 – Passive 1 – Active</p> <p>The field value will not be considered by exchange for modification and deletion request. Any value sent in this field in modification and deletion request will be ignored and the value sent earlier in addition request for that order will be considered</p>
Filler 5	Short	For Future use	To be sent as 0
Client Id	Char (11+1)	The client code of the client	Client Id must be "OWN" for Client type OWN.
Participant Code	Char (12+1)	The Participant code to facilitate auto give-up of trade to the custodian	<p>Only Valid Participant codes are allowed. In case auto give-up is not desired then application should send '0' in this field.</p> <p>All existing applications which do not want to use this feature, should necessary send ' /0 ' in this field for Client type INST and SPCLI , Else it may result in rejection of the order.</p> <p>For other client types such as OWN and CLIENT the system will ignore the value sent in this field.</p>

Message Tag 3	Char (14+1)	Reference tag 3 to be used by TPS. This will be echoed back in the reply	
Filler 6	Char(4)	For Future use	
Order Action Code	Unsigned Char	Add/Update/Delete	Valid Values A- Add Limit/Market Order U – Update of Limit/Market order D – Delete of limit/ Market order
Buy/Sell flag	Unsigned Char	Order Mode	Valid Values B – BUY S- SELL
Order Type	Unsigned Char	Order type	Valid values L – Limit Order G – Market Order K – Block Deal In case of update request used for conversion of order type from limit to market the flag should be sent as G
	Unsigned Char		1 – Book or Cancel
Client type	Short	Predefined client type values	Refer Section 4.4.6
Market Protection	Short		Valid percentage range 0 to 20%. Or (-1) The values in this field should be in the basis point. Thus 1% should be sent as 100, 10.25% should be sent as 1025 and 20% should be sent as 2000. Values less than 0 or greater than 2000(20%) will result in a rejection. Exception is -1 For Market Order with no market protection, user should send (-100). For this first trade for that order is generated at the best rate which is available on counter side of the book. The order will be further matched till the exchange defined maximum market protection percentage.

Retention	Short	The retention status for this order i.e. expiry of the order	0 – immediate 1 – end of session 2 – end of today
Filler 8	Short	For Future use	To be sent as 0
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.125 Debt Order Reply**Type of Message** : REPLY

Description : This is the reply message sent in response to Limit/Market order Add/Update/Delete requests. The reply message contains the Order id and the status of the transaction after it was processed (i.e. success or failure).

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	Message Type-1050
Message Tag 1	Long	Reference tag 1 to be used by TPS. This will be echoed back in the reply	
Reply Code	Short	The Reply code indicates the outcome after the Request was processed	0 indicates success (+ve) number indicates error (-ve) number means warning
Filler	Short	For Future Use	
Cancelled Qty	Long		Total quantity cancelled for this order. If the request is unsuccessful, i.e for reply code other than 0 and -261, the quantity will be 0 Refer to section 4.4.4
Order ID	Long Long	The Order ID generated when it is added.	
Day	Char	The Day at which the order was received at the BOLTPLUS	
Month	Char	The Month at which the order was received at the BOLTPLUS	
Year	Char	The Year at which the order was received at the BOLTPLUS	Year should be added with 1900 to get 4 Digit Year

Hour	Char	The Hour at which the order was received at the BOLTPLUS	
Minute	Char	The Minute at which the order was received at the BOLTPLUS	
Second	Char	The Second at which the order was received at the BOLTPLUS	
Milli Second	Char(3+1)	The Millisecond at which the txn was received at the BOLTPLUS	
Order Action Code	Unsigned char	Order action code received in the request.	
Buy/Sell flag	Unsigned char	The buy sell flag received in the request	
Order Type	Unsigned char	The order type received in the request	In case of SL order converted to limit or market by the user , the converted order type i.e. L or G will be sent for successful orders
Filler 1	Char(3)	For Future Use	
Reply Text	Char (99+1)	Explanation of reply code field above.	
Filler	Char(2)	For Future Use	
Reserve Field	Char [12+1]	For Internal Use	
MsgTag3	Char [14+1]	Reference tag 3 received in the request	
MsgTag2	Long	Reference tag 2 received in the request	
Pending Qty	Long	The total open quantity at BE for this order	Remaining quantity of an order. If the order has been executed partially this field contains the non-executed quantity. A remaining size of 0 indicates that the order is fully matched or no longer active. Refer to section 4.4.4
Total Traded Quantity	Long	Cumulative traded qty for the order	Cumulated executed quantity of an order. It would be 0 for add request For Update/ delete request the field will contain the traded qty if any else it would be 0. Refer to section 4.4.4
Filler 3	Short	For Future Use	
Filler 4	Short	For Future Use	

Yield	Long		The Yield corresponding to the clean price
Dirty Price	Long		The dirty price
Reserved Field	Long Long	For Internal Use	
Filler 1	Long Long	For Future Use	
Filler 2	Long	For Future Use	
Filler 3	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.126 Debt Pending Order Enquiry**Type of Message** : REQUEST**Description** : This message is sent by the TPS to BOLTPLUS for recovery purpose.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1051-Trades 1052 – Orders [For persistent order] 1053 – Query Return Order [For persistent order]
Hour	Char	Hour from which incremental data to be downloaded. In case of full download give time as 0	
Minute	Char	Minute from which incremental data to be downloaded. In case of full download give time as 0	
Second	Char	Seconds from which incremental data to be downloaded. In case of full download give time as 0	
Filler	Char	Filler	
Message Tag	Long	Message Tag	

1.1.127 Debt Pending Order Enquiry Response**Type of Message** : REPLY**Description** : This message is sent by the BOLTPLUS in response to the personal information request. It indicates the request was successfully processed or not.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	Reply for 1051-Trades 1052 – Orders [For persistent order] 1053 – Query Return Order [For persistent order]
Reply Code	Short	Code indicating whether the request was successfully processed or not	0 if success
Message Tag	Long	Message Tag sent in information request.	

1.1.128 Debt Trades Information

Type of Message : UMS
Description : This message contains Debt Trades information for the trader.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message-1051	
No o Records	Long	Number of trades in this message. Each trade contains the following Details.	Max=10
This is a separate substructure within the message. Details of the substructure are as follows			
Instrument Code	Long		
Trade Id	Long	The transaction id of the trade	
Rate	Long	The rate for the trade	The rate will be in basis points i.e. 4 decimal precision.
Qty	Long	Quantity of the trade	
Filler	Long	For Future use	
Reserved Field	Long	For Internal Use	
Year	Char	The Year at which this transaction was last modified	Year should be added with 1900 to get 4 Digit Year.
Month	Char	The Month at which this transaction was last modified	

Day	Char	The day at which this transaction was last modified	
Hour	Char	The Hour at which this transaction was last modified	
Minute	Char	The Minute at which this transaction was last modified	
Second	Char	The Second at which this transaction was last modified	
Client ID	Char (11+1)	Id of the client	
Order Type	Char	transaction type	'L' – Limit Order 'G' – Market Order
Buy or Sell	Char	Whether the Trade was for a Buy or Sell Transaction	'B' – Buy 'S' – Sell
Participant code	Char (20)	The Participant Code	
Order Id	Long Long	Order Id of transaction that resulted in this trade.	
Message Tag	Long	Reference tag sent in the order request	
Flag	Long	Bitwise Order Type flag to differentiate the normal and stop-loss orders	
Client type	Short	Pre defined Client types	
Yield	Long		The Yield corresponding to the clean price
Dirty Price	Long		The dirty price
Reserved Field	Long Long	For Internal Use	
Filler 2	Long Long	For Future Use	
Filler 3	Long	For Future Use	
Filler 4	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.129 End of Information

Type of Message Description

: UMS

: This message is sent by the BOLTPLUS whenever it finishes sending transactions of a particular type (Order, Trades) of a trader. It indicates to the TPS that all transactions of that particular type have been downloaded.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1520 – End of Information
No of Records	Long	Total number of records of the particular transaction downloaded.	Used by the TPS to ensure, it has received all transactions sent.
Message Tag	Long	Message Tag sent at Query Download request.	

1.1.130 Debt Personal Orders UMS

Type of Message : UMS

Direction : CTE to TPS

Description : The UMS is sent to trader against the debt pending order query initiated by the user.

Dependency:

Request/Reply : 1052,1053(Query on Debt Orders & Return Orders)

Field Name	Type	Description	Values, meanings, Validations
MsgType	Long		1052 – Debt Pending Orders 1053 –Debt Return Orders
NoOfRecs	Long	Number of Orders in this message. Each Order contains the following Order_Details.	A maximum of 12 orders are sent in a message.
ORDER_DETAILS	This is a separate substructure within the message. Details of the substructure are as given below.		
ScripCode	Long	The scrip code of the scrip for which the Order was entered.	
OrderId	Long Long	The transaction id. Of the Order.	
Rate	Long	The rate entered for the order	The rate will be in basis points i.e. 4 decimal precision.
OriginalQty	Long	The Original quantity entered for the order	
PendQty	Long	The quantity now pending for this order.	
Retention	Long	The retention status for this order.	

Msg Tag	Long	The Reference tag sent in the order request	
Trigger Rate	Long	The trigger rate sent in order request for an OCO order	The rate should be in basis points i.e. 4 decimal precision. For other orders, the field will have 0 values.
Type	char	The type of the order that was entered.	'L' – Limit Order 'C' – IOC 'G' – Market Order 'O' – Oddlot order 'K' – Block Deals
BuyOrSell	char	Whether the order is to Buy or Sell	'B' – Buy 'S' – Sell
Year	Char	The Year at which this transaction was last modified	Year should be added with 1900 to get 4 Digit Year
Month	Char	The Month at which this transaction was last modified	
Day	Char	The day at which this transaction was last modified	
Hour	Char	The Hour at which this transaction was last modified	
Minute	Char	The Minute at which this transaction was last modified	
Second	Char	The Second at which this transaction was last modified	
ClientId	Char (11+1)	The identifier of the client as entered by the trader.	
Flag	Long	Order Type to differentiate the normal and stop-loss orders	0 – For Limit and market orders i.e. L,G 1 - System triggered Stop-loss Orders 2- Stop-loss orders converted to normal orders by the user. For other Order type, the value would be same as sent by user in custodian field.
CAClass	Short	Predefined client type values	
MinQty	Long	Minimum quantity	

Location Id	Long long	Registered Location ID of the end-user who is placing the orders.	
Yield	Long		The yield corresponding to the clean price
Dirty Price	Long		The Dirty Price.
Reserved Field	Long Long	For Internal Use	
Filler 2	Long Long	For Future Use	
Filler 3	Long	For Future Use	
Filler 4	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.131 Debt Debt Market to Limit Conversion Notification

Type of Message : UMS

Description : This message is sent by the BOLTPLUS when a Market order is converted to a limit order.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1057-Convert Market Order to Limit Order.
Instrument Code	Long	Instrument code of the market order	
Order Id	Long Long	Order id of the market order	
Message Tag	Long		
Converted Rate	Long	Rate (in paise) at which the order was converted to limit order.	The rate will be in basis points i.e. 4 decimal precision.
Yield	Long		The yield corresponding to the clean price
Dirty Price	Long		The Dirty Price.

1.1.132 Debt Trade Notification

Type of Message : UMS

Description : This message is sent by the BOLTPLUS whenever trades occur for a trader.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	4521-Debt Trade Confirmation
No of Records	Long	Number of trade confirmations in this message. Each confirmation contains the following Trade Details, up to ten (10) trade confirmations can be sent in a message.	The maximum value of this field can be 10.
This is a separate substructure within the message. Details of the substructure are as given below.			
Instrument Code	Long	Instrument code for which trade has occurred	
Trade Id	Long	The Trade identifier of this trade.	
Rate	Long	The Rate at which this trade was executed.	The rate will be in basis points i.e. 4 decimal precision.
Qty	Long	The Quantity which was executed.	
Pending Qty	Long	Remaining Qty	The quantity pending at exchange when this trade was generated
Reserved Field	Long	For Internal Use	
Year	Char	The Year on which the trade was executed.	Year should be added with 1900 to get 4 Digit Year
Month	Char	The Month on which the trade was executed.	
Day	Char	The Day on which the trade was executed.	
Hour	Char	The Hour on which the trade was executed.	
Minute	Char	The Minute on which the trade was executed.	
Second	Char	The Second on which the trade was executed.	
Client Id	Char (11+1)	The Client in the transaction, which was involved in the trade.	
Transaction Type	Char	The transaction type of the transaction which was involved in this trade	'L' – Limit Order 'G' – Market Order K- Block Deal

Buy or Sell	Char	Whether the Trade was for a Buy or Sell Transaction	'B' – Buy 'S' – Sell
Participant Code	Char (20)	The Participant code sent in the order request	
Order ID	Long Long	The Transaction Id of the Transaction, which was involved in this trade.	
Message Tag	Long	The reference tag sent in the order request	
Flag	Long	Bitwise Order Type flag to differentiate the normal and stop-loss orders	
Client Type	Short	Pre defined client types	
Yield	Long		The Yield corresponding to the clean price
Dirty Price	Long		The dirty price
Reserved Field	Long Long	For Internal Use	
Filler 2	Long Long	For Future Use	
Filler 3	Long	For Future Use	
Filler 4	Long	For Future Use	
Algo ID	Char (16)	Regulatory Identifier	Refer Section 1.1.10 for details

1.1.133 Debt Enquiry Request

Type of Message : REQUEST

Description : This message can be used to enquire about the debt instrument parameters by providing the clean price or yield.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1055
Filler	Long	Filler	Filler
Reference Tag	Long	Internal reference tag which will be echoed back in the reply	

Price	Long	The clean price	The rate should be in basis points i.e. 4 decimal precision. If price is provided, the yield field should be sent as - 2147483648
Yield	Long	The Yield	If Yield is provided, then the price field should be sent as - 2147483648
Instrument Code	Long	The instrument code for which the debt data is required	
Qty	Long	Total Order Quantity.	

1.1.134 Debt Info Response**Type of Message** : REPLY**Description** : This message is sent against the inquiry request sent by the user

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	1055
Reference Tag	Long	Internal reference Tag that was sent in the request	
Reply Code	Short	Response code for the request sent	Success All value other than 0 is unsuccessful
Reserved Field	Short	For internal Use	
Price	Long	The Clean Price	The rate will be in basis points i.e. 4 decimal precision.
Yield	Long	The Yield	
Instrument Code	Long	Instrument code of the Instrument for which data was requested	
SettleType	Long	The settlement date	
Gross Trade Amount	Long Long	The total obligation value (Total Consideration)	
Accrued Interest Amount	Long	The interest amount accrued till date	
Dirty Price	Long	The dirty price	
Error Text	Char(80)	For unsuccessful responses	

1.1.135 Debt Market Data Info Request**Type of Message** : REQUEST

Description : This message is sent by the TPS to the BOLTPLUS for the detailed best current rates and statistics about the day's trading in particular scrip. IT provides detailed market picture data.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2112
Filler	Long	Filler	Filler
Reference Tag	Long	Internal reference tag which will be echoed back in the reply	
Security Code	Long	The security code for which the market data is required	

1.1.136 Market Data Info Response**Type of Message** : REPLY

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2112
Reference Tag	Long	Internal reference Tag that was sent in the request	
Reply Code	Short	Response code for the request sent	Success All value other than 0 is unsuccessful
Reserved Field	Short	For internal Use	
Instrument Code	Long	Instrument code of the Instrument for which data was requested	
Open Rate	Long	Opening rate of the Instrument	The rate will be in basis points i.e. 4 decimal precision.
Previous Close Rate	Long	Previous Closing rate of the Instrument	The rate will be in basis points i.e. 4 decimal precision. Previous day's close price in all sessions

High Rate	Long	Highest traded rate of the Instrument	The rate will be in basis points i.e. 4 decimal precision. .
Low Rate	Long	Lowest traded rate of the Instrument	The rate will be in basis points i.e. 4 decimal precision.
No of Trades	Long	Number of trades took place during the day for the Instrument	The cumulative no. of trades during the day
Volume	Long	Total Traded qty during the day for the Instrument	The cumulative no. of shares traded during the day
Value	Long	Total Traded value during the day for the instrument	The cumulative value traded during the day
Last Trade Qty	Long	Quantity which got executed in the Last trade	The total quantity traded in the last trade
LTP	Long	Price at which last trade took place.	The rate will be in basis points i.e. 4 decimal precision. The traded rate in the last trade
YTM	Long	Yield to Maturity computed based on the last traded price of a bond	The yield will be in basis points i.e. 4 decimal precision.
YTC	Long	Yield to Call computed based on the last traded price of a bond. Applicable only if a bond is Callable	The yield will be in basis points i.e. 4 decimal precision.
YTP	Long	Yield to Put computed based on the last traded price of a bond. Applicable only if a bond is Putable	The yield will be in basis points i.e. 4 decimal precision.
Close Rate	Long	Close price once close price for the day is determined	The rate will be in basis points i.e. 4 decimal precision. The field will be populated once close price for the day is determined else it would be 0
Reserved Field	Long	For Future Use	

Indicative Equilibrium Price	Long	Indicative EP price if determined in call auction order entry session	Indicative EP price if determined in call auction order entry session else it would be 0
Indicative Equilibrium Qty	Long	Indicative EP Quantity if determined in call auction order entry session	Indicative EP quantity if determined in call auction order entry session else it would be 0
Reserved field	Long Long	For future use	
Total Bid Qty	Long	Total Bid Qty	Total quantity present in the buy order book
Total Offer Qty	Long	Total Offer Qty	Total quantity present in the sell order book
Trade Value Flag	Char	Unit for value	'l' for lacs, 'c' for crores
Trend	Char	Up/down trend	'+' for up, '-' for down
Six Lakh Flag	Char	Indicates that Six Lakh Instrument code is active for this Instrument code	Values: 'Y' for active 'N' for not active
Reserved Field	Char		
Lower Circuit Limit	Long	Lower Circuit limit for Instrument	The rate will be in basis points i.e. 4 decimal precision. The lowest rate at which order can be placed during the day
Upper Circuit Limit	Long	Upper Circuit limit for Instrument	The rate will be in basis points i.e. 4 decimal precision. The highest rate at which order can be placed during the day
Weighted Average	Long	Weighted Average for Instrument	The rate will be in basis points i.e. 4 decimal precision.
Market Type	Short	The type of market	20-PCAS 0 – All other securities
Session Number	Short		Refer session table, section 2.4
LTP Hour	Char		

LTP Minute	Char		
LTP Second	Char		
LTP Millisecond	Char[3]		
Reserved Field	Char[2]		
Reserved Field	Short		
No of Price points	Short	"n" Number of Price points	Currently "n" = 5
Following sub-structure will repeat number of times as specified in the "No. of Price points" field above.			
Best Bid Rate	Long	Best bid rate in paise	The rate will be in basis points i.e. 4 decimal precision.
Buy YTM	Long	Yield to Maturity computed based on the Buy price of a bond	The yield will be in basis points i.e. 4 decimal precision.
Buy YTC	Long	Yield to Call computed based on the Buy price of a bond. Applicable only if a bond is Callable	The yield will be in basis points i.e. 4 decimal precision.
Buy YTP	Long	Yield to Call computed based on the Buy price of a bond. Applicable only if a bond is Callable	The yield will be in basis points i.e. 4 decimal precision.
Total Bid Qty	Long	Total quantity available at best bid rate	
No. of Bid at the price points	Long	No. of Orders at the Buy Price point	
Best Offer Rate	Long	Best offer rate in paise	The rate will be in basis points i.e. 4 decimal precision.
Sell YTM	Long	Yield to Maturity computed based on the Sell price of a bond	The yield will be in basis points i.e. 4 decimal precision.
Sell YTC	Long	Yield to Call computed based on the Sell price of a bond. Applicable only if a bond is Callable	The yield will be in basis points i.e. 4 decimal precision.
Sell YTP	Long	Yield to Call computed based on the Sell price of a bond. Applicable only if a bond is Callable	The yield will be in basis points i.e. 4 decimal precision.

Total Offer Qty	Long	Total quantity available at best offer rate	
No. of Ask at the price points	Long	No. of Orders at the Sell Price point	

1.1.137 Debt Market Picture Broadcast [2033]**Type of Message** : BROADCAST**Description** : This message is used to inform about the detailed market picture of Instruments during continuous trading sessions. Each message contains market picture for maximum of 6 Instruments. This message will be sent only for debt instruments.

Field Name	Type	Description	Values, meanings, Validations
Message Type	Long	Type of message	2033-Market picture Broadcast
Reserved Field	Long		
Reserved Field	Long	For Internal Use	
Reserved Field	unsigned short	For Internal Use	
Hour	Short	Time : HH	
Minute	Short	Time : MM	
Second	Short	Time : SS	
Millisecond	Short	Time : sss	
Reserved Field	Short		
Reserved Field	Short	Reserved Field	
No of Records	Short	No. of market picture records sent	This can have a maximum of 6 records

Following is a market picture structure appearing repeatedly (Max 6 times)

Instrument Code	Long	Instrument code of the Instrument for which Touchline details are being sent.	
Open Rate	Long	Opening rate of the Instrument.	The rate will be in basis points i.e. 4 decimal precision.
Previous Close Rate	Long	Previous Closing rate of the Instrument	The rate will be in basis points i.e. 4 decimal precision. Previous day's close price in all sessions

High Rate	Long	Highest traded rate of the Instrument	The rate will be in basis points i.e. 4 decimal precision. .
Low Rate	Long	Lowest traded rate of the Instrument	The rate will be in basis points i.e. 4 decimal precision.
No of Trades	Long	Number of trades took place during the day for the Instrument	The cumulative no. of trades during the day
Volume	Long	Total Traded qty during the day for the Instrument	The cumulative no. of shares traded during the day
Value	Long	Total Traded value during the day for the instrument	The cumulative value traded during the day
Last Trade Qty	Long	Quantity which got executed in the Last trade	The total quantity traded in the last trade
LTP	Long	Price at which last trade took place.	The rate will be in basis points i.e. 4 decimal precision. The traded rate in the last trade
YTM	Long	Yield to Maturity computed based on the last traded price of a bond	The yield will be in basis points i.e. 4 decimal precision.
YTC	Long	Yield to Call computed based on the last traded price of a bond. Applicable only if a bond is Callable	The yield will be in basis points i.e. 4 decimal precision.
YTP	Long	Yield to Put computed based on the last traded price of a bond. Applicable only if a bond is Putable	The yield will be in basis points i.e. 4 decimal precision.
Close Rate	Long	Close price for the current day once close price for the day is determined in closing session	The rate will be in basis points i.e. 4 decimal precision. The field will be populated once close price for the day is determined else it would be 0
Reserved Field	Long	For Future Use	

Indicative Equilibrium Price	Long	For Future Use	
Indicative Equilibrium Qty	Long	For Future Use	
Timestamp	Long Long	Time at which the market data was generated at Exchange	The time is in Julian format.
Total Bid Qty	Long	Total Bid Qty	Total quantity present in the buy order book
Total Offer Qty	Long	Total Offer Qty	Total quantity present in the sell order book
Trade Value Flag	Char	Unit for value	'l' for lacs, 'c' for crores
Filler	Char	For Future Use	
Reserved Field	Char	For internal use	
Reserved Field	Char		
Lower Circuit Limit	Long	Lower Circuit limit for Instrument	The rate will be in basis points i.e. 4 decimal precision. The lowest rate at which order can be placed during the day
Upper Circuit Limit	Long	Upper Circuit limit for Instrument	The rate will be in basis points i.e. 4 decimal precision. The highest rate at which order can be placed during the day
Weighted Average	Long	Weighted Average for Instrument	The rate will be in basis points i.e. 4 decimal precision.
Market Type	Short	The type of market	
Session Number	Short		
LTP Hour	Char	Hour at which Last trade took place	
LTP Minute	Char	Minute at which Last trade took place	
LTP Second	Char	Second at which Last trade took place	
LTP Millisecond	Char[3]	Millisecond at which Last trade took place	
Reserved Field	Char[2]		
Reserved Field	Short		
No of Price points	Short	"n" Number of Price points	Currently "n" = 5

Following sub-structure will repeat number of times as specified in the “No. of Price points” field above.			
Best Bid Rate	Long	Best bid rate in paise	The rate will be in basis points i.e. 4 decimal precision.
Total Bid Qty	Long	Total quantity available at best bid rate.	
Buy YTM	Long	Yield to Maturity computed based on the Buy price of a bond	The yield will be in basis points i.e. 4 decimal precision.
Buy YTC	Long	Yield to Call computed based on the Buy price of a bond. Applicable only if a bond is Callable	The yield will be in basis points i.e. 4 decimal precision.
Buy YTP	Long	Yield to Call computed based on the Buy price of a bond. Applicable only if a bond is Callable	The yield will be in basis points i.e. 4 decimal precision.
No. of Bid at the price points	Long	No. of Orders at the Buy Price point	It will always show the number of actual orders in the order book.
Filler	Long		
Best Offer Rate	Long	Best offer rate in paise	The rate will be in basis points i.e. 4 decimal precision.
Total Offer Qty	Long	Total quantity available at best offer rate	
Sell YTM	Long	Yield to Maturity computed based on the Sell price of a bond	The yield will be in basis points i.e. 4 decimal precision.
Sell YTC	Long	Yield to Call computed based on the Sell price of a bond. Applicable only if a bond is Callable	The yield will be in basis points i.e. 4 decimal precision.
Sell YTP	Long	Yield to Call computed based on the Sell price of a bond. Applicable only if a bond is Callable	The yield will be in basis points i.e. 4 decimal precision.
No. of Ask at the price point	Long	No. of Orders at the Sell Price point	It will always show the number of direct orders in the order book.

BSE Exchange's New Trading System

BSE Mumbai

BOLTPLUS IML

7.14

Filler	Long		
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Appendix

1.2 Protocol Error Codes

For Message Type 802

Error Code	Description	Remarks
901	Message [Message Type] allowed once per session.	This error occurs when TPS application sends messages which are defined to be sent only once during a session.
804	Slot Not Free	This error occurs when all the available slots are occupied. No further request can go until reply for the already sent request comes.
100	Message [Message Type] not supported through IML	This error occurs when the TPS application is sending a message type which is not supported anymore on IML
555	Connection to Bolt plus system not initiated	This error occurs if the member application is sending auction connection messages before sending the login request.
500	Connection to Auction system not initiated	This error occurs if the member application is sending auction related messages before the login in auction system is done.
805	Invalid Slot	This error occurs when the TPS application is sending slot number greater than '2147483646'.
600	Transaction not allowed while recovery in progress	This error occurs when the TPS application sends any transaction message while the recovery data (order/ trades) are being downloaded.

For Message Type 800

Error Code	Description	Remarks
200	Invalid Message Length	Length of message in the request is improper.
811	Registration not performed yet	This error occurs if any transaction request is sent by user without performing the registration.
813	Result of Transaction Unknown	This occurs due to serious technical issue at BE. Reconnection and followed by reconciliation of order book is

		expected when this error is experienced.
300	Unable to connect to host	

1.3 Application Error Codes

, The BOLT plus system classifies the errors into 2 categories namely

- **Technical Errors** – Errors which occurred due to technical issue and can be used for automated processing of the applications. In this category all types of rejections are communicated with dedicated error codes. The TPS application may interpret each error code differently for automated processing. Find below table of Technical Error codes for details on errors
- **Functional Errors** – Errors which occurred due to functional problem with the transaction and needs intervention for recourse. In this category, all rejections are communicated with few dedicated error code. The Error text for each error communicates the exact reason of the rejection.

Technical Error codes

Error Code	Error Reason	Description
100	Reject due to exceeded throttle limit.	This error indicates the defined transaction size limit for the second is exceeded.
101	Exposure limit exceeded.	This error indicates the request could not be processed by matching engine.
102	Service temporarily not available.	This error indicates the matching engine service is currently unavailable.
103	Service not available.	This error indicates the matching engine service is currently unavailable.
10000	Order not found.	This error indicates either the order id is invalid or the order is no longer present in the system, (either traded or cancelled)

Functional Error codes

Error Code	Error Reason	Description
1	Required Tag Missing	If certain field is not provided in the request structure
5	Value Is Incorrect	Incorrect value is provided in a field of the request structure
11	Invalid Msg ID	If the Message type is sent incorrect
99	Other	This error indicates connection related errors like incorrect password, User not present etc. The error text would provide description on the reason for rejection

200	Internal Technical Error	Rejection happened due to some technical error at BE.
210	Validation Error	This error indicates functional error with the request sent. For eg. Price not within price band, incorrect tick size etc. The error text would provide the reason for the rejection

All successful transaction will have following codes in the error code field

Error Code	Description
-265	Update deleted order with qty \$
-784	RRM order accepted successfully for check
0	The text will be different for each type of transaction message
-785	Order Marked For Deletion.

1.4 Reason codes for Cancelled order UMS [3233]

Reason Code	Reason	Description
2	Security Suspended	The orders will be cancelled when the security is suspended during trading hours by Exchange due to regulatory compliance
18	No Equilibrium Price determined in SPOS for relisting security	For relisting securities if the equilibrium price is not determined during SPOS, all the pending orders are cancelled.
19	Out of price band orders	All the orders submitted in SPOS which fall outside the price band which is determined after equilibrium price is established are cancelled
20	Insufficient collateral	In case the Collateral utilization for orders in SPOS session exceeds the available collateral, the pending orders of SPOS session will be cancelled and sent using this error code
21	Position Limit Exceeded	If the market wide position limit of an TM across all the contracts of a product of an asset exceeds beyond defined threshold, all the pending orders across all the contracts of

		the product of that asset will be cancelled
149	Member or Trader suspended	The cancelled orders with this error code means some orders were accepted during the race condition of suspension.
150	Market Halt	Currently the pending orders are not returned whenever the market halt is triggered. However if such orders are returned in future it would be returned using this error code. The TPS application should be ready to handle the orders return in case of market halt which will be sent in above structure with this reason code.
151	RRM [Collateral Exhaustion]	The member is in RRM mode due to exhaustion of capital.
152	Trader Suspended	In case the trader is suspended by his admin or by Exchange, all the pending orders are returned with this error code
420	End of Session Expiry Orders	All the orders submitted with end of session expiry will be cancelled as soon as the Trading (Continuous) session ends and will be sent using this error code
422	End of Today Expiry Orders.	All the orders submitted with end of session expiry will be cancelled as soon as the Trading (Post Closing) session ends and will be sent using this error code
423	Call Auction Failure	All orders cancelled due to call auction failure will be returned with this error code.
425	End of Session Expiry Orders	The cancelled orders with this error code means some orders were accepted during the race condition of session.
426	End of Today Expiry Orders.	The cancelled orders with this error code means some orders were accepted during the race condition of session.
31	Price worse than close price	Orders whose price is worse than the days determined close price.
240	Member Suspended	The member is suspended by exchange for regulatory compliance reasons.
241	RRM [Regulatory]	The member is in RRM due to regulatory compliance such as violation of Trade to order ratio in derivative segment

199	Pending Cancel	The final confirmation for the deletion request sent in freeze period of call auction
246	Self-Trade Order	The order at the time of matching would result in self trade.
247	Reverse Trade Prevention Check - Order Cancellation	The order at the time of matching would result in contra trade with the same member and client.
250	Client RRM for Product	The Orders are cancelled because the client has entered the RRM mode for particular product.
251	Client Suspension	The orders are cancelled because the Client is suspended by the Exchange for regulatory reason.
252	Client RRM For Contract	The orders are cancelled because the client has entered in RRM mode for that contract
253	Member RRM For Contract	The orders are cancelled because the member has entered in RRM mode for that contract.
254	Client RRM	The orders are cancelled because the client has entered in RRM mode

1.5 Socket Errors

In addition to Protocol and Application error the member application may face disruption in communication due to errors caused at the socket level. These error are not communicated to member application through messages. These messages are notified on IML dashboard. The errors are as follows

Error Code	Error Reason	Description
10035	<i>Resource temporarily unavailable</i>	The error comes when IML was not able to write data on the sockets. This may happen since socket buffers are full and IML is not able to write any more data on the socket. In the event of coming this error user may wait for some time and send the data.
	This error is returned from operations on non-blocking sockets that cannot be completed immediately, It is a non-fatal error, and the operation should be retried later.	

10053	Connection aborted abruptly or timed out	This error can come at either side of the sockets at IML is abruptly closed. It can come due to network time out or abrupt disconnection from the other side.
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1.6 Index Code and Mapping

Index Code	Index Name	Description
1	SENSEX	BSE sensitive index
2	BSE100	BSE 100 scrips index
3	BSE200	BSE 200 scrips index
4	BSE500	BSE 500 scrips index
34	BSE IT	S&P BSE Information Technology
32	BSEFMC	S&P BSE Fast Moving Consumer Goods
7	BSE CG	BSE Capital Goods Index
8	BSE CD	BSE Consumer Durables index
33	BSE HC	S&P BSE Healthcare
10	BSE PSU	BSE Public Sector Unit Index
11	TECK	BSE Teck Index
12	BANKEX	BSE Bank Index
13	AUTO	BSE AUTO index
14	METAL	BSE METAL index
15	OILGAS	BSE OIL&GAS index
30	MIDCAP	S&P BSE MidCap
31	SMLCAP	S&P BSE SmallCap
18	DOL30	Dollex-30
19	DOL100	Dollex-100
20	DOL200	Dollex-200
21	REALTY	BSE Realty Index
22	POWER	BSE Power Index
23	BSEIPO	BSE IPO Index
25	GREENX	BSE GREENEX

26	CARBON	BSE CARBON
27	SMEIPO	BSE SME IPO
28	INFRA	S&P BSE India Infrastructure Index
29	CPSE	S&P BSE CPSE
35	MFG	S&P BSE MFG
36	ALLCAP	S&P BSE AllCap
37	BASMTR	S&P BSE Basic Matrl
38	CDGS	S&P BSE Cons Discr
39	ENERGY	S&P BSE Energy
40	FIN	S&P BSE Finance
41	INDSTR	S&P BSE Industrials
42	LRGCAP	S&P BSE LargeCap
43	MIDSEL	S&P BSE MidCap Sel
44	SMLSEL	S&P BSE SmallCapSel
45	TELCOM	S&P BSE Telecom
46	UTILS	S&P BSE Utilities
47	SNSX50	S&P BSE SENSEX 50
48	SNXT50	S&P BSE SENSEX Next 50
49	BHRT22	S&P BSE Bharat 22
50	ESG100	S&P BSE 100 ESG Index

1.7 Handling Call Auction Orders in Freeze Period

In call auction session, the order entry sessions end randomly in the last minute, the period between order entry and matching start is called as Freeze period. If any order deletions request is sent in freeze period then such requests are provisionally accepted. Such orders are not immediately deleted. The delete action for such orders will be executed post matching, provided orders did not get traded in matching session.

If the order is partially matched then the remaining quantity is cancelled by the exchange and user is notified using the message.

Such orders are provisionally acknowledged with error code – 785 [Order Marked for Deletion] and the confirmation of deletion is provided through message type 3233. The deletion confirmation is provided only if the order is partially traded or unmatched. For fully traded orders deletion confirmation will not be sent.

1.8 Trading sessions

Session Value Table

A session broadcast will be sent in message type 2002. The possible combination and sequence of market type and current session number received by TPS would be as follows.

Time	Market Type	Session Number	Start and End Flag	Description
7:50 AM	0	0	N/A	Logon
9:00 AM	0	1	N/A	Normal Call auction, SPOS Order Entry Session start
Between 9:07 – 9:08	0	0	N/A	Random End of Normal Call auction Order Entry Session. [Freeze Session]
Between 9:08 AM – 9:12 AM	0	2	N/A	End of Matching Session of Normal Call auction
9:15 AM	0	3	N/A	Continuous Session
9:30 AM	20	1	S	PCAS session 1 Order Entry Session
Between 9:44 AM – 9:45AM	0	10	N/A	Random End of SPOS Order Entry Session [Freeze Session]
Between 9:45 AM – 9:55 AM	0	12	N/A	End of Matching Session of SPOS
10:00 AM	0	13	N/A	Continuous Session for SPOS
Between 10:14 AM – 10:15AM	20	1	E	Random End of PCAS session 1 Order Entry Session [Freeze Session]
Between 10:15 AM – 10:30 AM	20	2	E	End of Matching Session of PCAS session 1
10:30 AM	20	1	S	PCAS session 2 Order Entry Session [Freeze Session]
Between 11:14 AM – 11:15AM	20	1	E	Random End of PCAS session 2 Order Entry Session
Between 11:15 AM – 11:30 AM	20	2	E	End of Matching Session of PCAS session 2
3:30 PM	0	4	N/A	Closing
3:40 PM	0	5	N/A	Post Closing session
4:00 PM	0	7	N/A	Member Query Session

6:03 PM	0	6	N/A	End of day
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* N/A – Not Applicable

* The same PCAS schedule as published above for 2 sessions is applicable other PCAS sessions also which will be conducted during the day

The below tables represents session values expected only in case of Market Halt

Time	Market Type	Session Number	Start and End Flag	Description
In case when Normal market starts				
7:50 AM	0	0	N/A	Logon
9:00 AM	0	1	N/A	Pre-Open Call auction, SPOS Order Entry Session start
Between 9:07 – 9:08	0	0	N/A	Random End of Pre-Open Call auction Order Entry Session [Freeze Session]
Between 9:08 AM – 9:12 AM	0	2	N/A	End of Matching Session of Pre-Open Call auction The End of matching session will be communicated by session number 2 instead of 0.
9:15 AM	0	3	N/A	Continuous Session
In case Market Halt is triggered at this stage, End of Continuous session will be informed, by a Log-on session. Below mentioned session information will be disseminated, when scheduling of Normal Call auction and SPOS is done in parallel. This is the case between 9.15 a.m. to 10.00 a.m.				
	0	0	N/A	End of Continuous Session
	0	1	N/A	Normal Call auction, SPOS Order Entry Session start
	0	0	N/A	Random End of Normal Call auction Order Entry Session
	0	10	N/A	Random End of SPOS Order Entry Session [Freeze Session]
	0	2	N/A	End of Matching Session of Normal Call auction
	0	12	N/A	End of Matching Session of SPOS
	0	3	N/A	Start of Continuous Session
	0	13	N/A	Continuous Session for SPOS
This is a second scenario, when Market Halt is triggered post 10.00 a.m in which case no SPOS				

session will be scheduled separately. At this stage, End of Continuous session will be informed by a Log-on session. Below mentioned session information will be disseminated, when scheduling of Normal Call auction prior to Continuous session

	0	0	N/A	End of Continuous Session
	0	1	N/A	Normal Call auction Order Entry Session start
	0	0	N/A	Random End of Normal Call auction Order Entry Session [Freeze Session]
	0	2	N/A	End of Matching Session of Normal Call auction
	0	3	N/A	Start of Continuous Session

Not Supported Messages

Sr. No.	Messages	Message Type
1	Query Personal Block Deals	1094
2	Query Returned Block Deals	1172
3	Trade Rectification Request	1847
4	Trade Rectification Reply	1847
5	Trade Rectification UMS	1194
6	Query News Request	1123
7	Query NEWS Reply	1123
8	Query VAR Percentage Download Request	1185 1285
9	Query VAR Percentage Download Reply	1185 1285
10	VAR Percentages download UMS	1185 1285
11	VAR Percentages Download-Over UMS	1186 1286
12	Query for Scrip wise Hourly Trades Statistics Download Request.	2202
13	Query for Scrip wise Hourly Trades Statistics Download Reply	2202
14	Hourly Statistics End of Download UMS	2203
15	Hourly Trade statistics broadcast	2018
16	Add/Update 6A/7A Request	21504 21505
17	6A/7A UMS	21501 21503
18	Query Own defaulter/ Query 6A7A	10004 21501
19	6A7A Upload Reply	21504 21505
20	End of Download	21502
21	End of Breakup Download	1601
22	End of Download	10500
23	Open Price Broadcast	2013
24	Add buy odd lot Request/Reply	20001
25	Add sell odd lot Request/Reply	20002
26	Upd buy odd lot Request/Reply	20003
27	Upd sell Odd lot Request/Reply	20004

28	del buy odd lot Request/Reply	20005
29	delete sell odd lot Request/Reply	20006
30	Odd Lot Grab Request/Reply for Buy	20015
31	Odd Lot Grab Request/Reply for Sell	20016
32	Query Refresh Odd Lot Request/Reply / UMS	20010
33	EOD Query Refresh Odd Lot UMS	20500
34	Upload Basket UMS	1175
35	Add Basket Request / Reply	1178
36	Upload Basket Request / Reply	1180
37	Delete Basket Request / Reply / UMS	1179
38	Basket Master Request / Reply	1176
39	Personal basket order Request / Reply / UMS	1174
40	Scrip wise download of BuyBack Orders Request/Reply/UMS	2204
41	End Of Download UMS for BuyBack Orders	2205
42	Query QFI board Securities Request / Reply/ UMS	1227
43	Query Six Lakh Scrip Request / Reply / UMS	1226
44	Query Touchline	1101
45	Touchline Broadcast	1901
46	Open Interest Query	1149
47	Faster Trade Confirmation UMS	2521
48	Capital Adequacy UMS	24001 24002 24003
49	Trader Suspension UMS	1524
50	Call Auction UMS	1169
51	Instrument suspension notification	1522
52	News Headline Request	1121
53	News Headline Response	1121
54	News Detail Request	1122
55	News Detail Response	1122
56	25 News Headline Request	1124
57	25 News Headline Response	1124
58	25 News Information	1124
59	News Category Request	1123
60	News Category Response	1123
61	UMS for returning EOTDY order	1854

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62	UMS for returning stop-loss EOTDY orders	1855
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Change Log

	Section	Description
1	1.1.33 Recovery	Recovery Section re-phrased to remove interaction with the BOLT system IML is required to communicate with BOLTPLUS system only. Additional case of rejection of transaction message while recovery is in progress is documented.
2	Section 1.1.83 UMS for returning EOTDY order [1854] Section 1.1.83 UMS for returning stop-loss EOTDY orders [1855]	These UMS will not be sent at the End of day. This message was required to communicate about cancellation of all orders at BE. Since cancellations are already communicated with different messages such as Order-by order cancellation [Message Type 3233] or Mass Cancellation Message [Message Type 1927] thus the messages 1854 and 1855 are not required
3	1.1.14 Order Rate Message	Number of slots increased from 48 to 250. The new value will be passed in the Order rate message in Field <i>Max slot</i> .
4	1.1.43 User Logon Reply	A filler field is used to provide Total number of partitions. Total number of partition is required for incremental Trade recovery. A Filler field is used to convey the password expiry in advance. The number of days remaining for password expiry will be communicated 3 days in advance.
5	Change Log	The change Log section is modified to remove all previous changes mentioned. A list of not supported messages in BOLTPLUS is added in a new section. " Not supported Messages"
6	Section 1.2 Protocol Error Codes	The Protocol errors are modified to remove some not applicable error codes and also certain new protocol error codes are introduced.
7	Section 1.1.16 Password Management	After Expiry the user will be allowed one grace login session with expired password.

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		<p>The user is compulsorily required to change the password in the grace login session</p> <p>If the user fails to change the password in the grace login session then all subsequent attempts with expired password will be rejected.</p>
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Changes compared to version 7.0

	Section	Description
1	1.1.43 User Logon Reply	In API version 7.0 It was mistakenly mentioned that the password expiry notification in advance will be provided.
2	1.1.85 Trader wise Limits Reply	The fields Default Buy Qty is renamed to net Buy Qty The fields Default Sell Qty is renamed to net Buy Qty
3	1.1.58 Mass cancellation Information 1.1.80 Mass cancellation Notification	New value [107 = Instrument suspension added for the field MassActionReason
4	Technical Overview	New sub section about recommended specification for the Iml server added under section System requirements
5	Reason codes for Cancelled order UMS [3233]	New Reason code for Self Trade prevention check functionality added.

Changes compared to version 7.01

	Section	Description
1	1.1.82 Returned Orders/Block Deals UMS	<p>The field <i>Replenish Qty</i> changed to <i>Cancelled Quantity</i> which will provide the actual quantity cancelled for this order.</p> <p>The field <i>LTId</i> and <i>CustCode</i> changed to <i>Filler</i></p>
2	1.1.52 Trades Information	The field <i>PendingQty</i> changed to <i>Filler</i> .
3	1.1.97 Market Picture Broadcast	<p><i>Filler</i> fields in Best Bid and Offer structure changes to <i>Implied Quantity</i>.</p> <p>The field is applicable for equity derivatives and currency derivatives segment only.</p> <p>New remarks added for fields <i>Total Bid Qty</i>, <i>No. of bids at price point</i>, <i>Total offer Qty</i>, <i>No. of offers at price point</i>.</p>

Changes compared to version 7.02

	Section	Description
1	1.1.28 Heartbeat 1.1.42 Heartbeat Notification	New message Heartbeat Notification introduced to communicate the exchange status to the TPS application. The Message is sent by Exchange at every defined interval of 1 minute.
2	1.1.67 Trade Enhancement Request 1.1.68 Trade Enhancement Response 1.1.69 Trade Enhancement Notification	New messages introduced to provide the information about the confirmed / approved trades by the respective custodian on the trading system.
2	1.1.73 Add /Update /Delete Limit, Market & Stop-loss Order Request (1025)	New functionality of Auto give-up/ take-up facilitated through order messages. An existing filler field used to capture Participant code. All existing user who do not intend to use this feature should necessarily sent /0 in the field. Refer field description for more details. Block deal orders can be sent using 1025 message in addition to existing block deal messages
3	1.1.79 Multileg order request	A new field Participant code is added in the message structure.
3	1.1.56 Trade information 1.1.90 Trade Notification 1.1.93 Trade Notification 2	An existing filler field is used to populate the Participant code which was sent in the order request
3	1.1.116 Session Broadcast	The Field " <i>Segment</i> " will not be provided in the session broadcast message for each segment is sent on different multicast stream. The field will be made as filler.
4	1.1.117 Market Picture Broadcast [2020]	The field "Six Lakh flag" is made as reserved field.

5	1.6 Index code and mapping	All the indices code and its abbreviated names provided.
6	Reason code for cancelled order UMS [3233]	New error code 247 introduced for trade reversal prevention check.
7	List of Abbreviation	A new abbreviation MM added for market maker
8	Quote Handling	A new section on the market maker functionality is introduced.
9	1.1.81 Quote 1.1.82 Quote Response 1.1.83 MM Execution Notification 1.1.84 MM Mass Cancellation Request 1.1.85 MM Mass Cancellation Response 1.1.86 MM Mass Cancellation Notification 1.1.87 Quote Activation Request 1.1.88 Quote Activation Response 1.1.89 Quote Activation Notification	New Messages introduced for the handling of Market Making Functionality

Changes compared to version 7.03

	Section	Description
1	1.1.82 MM Order Response	Field MM Entry Reject Reason datatype changed from short to Long
2	1.1.83 MM Execution Notification	Removed
3	1.1.83 MM Mass Cancellation Request	Field message tag (Reference tag) data type changed from long to long long
4	1.1.84 MM Mass Cancellation Response	Field message tag (Reference tag) data type changed from long to long long New Field Last Message introduced
5	1.1.85 MM Mass Cancellation Notification	New Field Last Message introduced
6	1.1.86 MM Order Activation Request 1.1.87 MM Order Activation Response 1.1.88 MM Order Activation Notification	Not supported
7	1.1.89 MM Reject	New Reject Message introduced for rejection of MM order.

Changes compared to version 7.04

Sr. No	Section	Description
1.	1.1.1 Order Types	New Order types "One-cancels-the-other (OCO)" and "Book or Cancel (BOC)" introduced.
2.	1.1.47 Throttle Notification	The Message name "Order rate Message" changed to "Throttle Notification". Field "Filler" renamed as "Throttle Time Interval" and it will be used to provide the time interval applicable for the field "Transaction limit".
3.	1.1.19 MM Handling	The term "MM" is replaced with "Quotes". Introduction of single sided quotes.
4.	1.1.70 Personal Orders/Block Deals UMS	The existing field LTID is renamed as "Trigger rate" which is applicable for an OCO order.
5.	1.1.73 Add /Update /Delete Limit, Market & Stop-loss Order Request	The field Trigger rate which is applicable for Stop-loss order will now be applicable for limit order for an OCO order. Field "Filler 7" is renamed as "Execution type" to enable the BOC orders functionality.
6.	1.1.91 Stop-Loss Trigger Order Notification	The field "Stop Loss Trigger flag" will provide information about the triggered OCO order.
7.	Debt Market	New messages introduced for trading in debt instruments. These messages convey additional information about the Yield and Dirty Price. A new market picture message will be sent as broadcast for debt instrument. This is an additional message for debt securities only. The new messages will support the securities having trading based on clean price.
8	1.1.114 Close Price broadcast	An existing reserved field used to provide information about the price precision, i.e. the close price is having 2 decimal or 4 decimal precision

Changes compared to version 7.05

Sr. No	Section	Description
1.	1.1.121 Debt Order Request	Stop-loss orders not supported in this message type
2.	1.1.128 Debt Market to Limit conversion	Message type number changed to 1057. Field "Yield" added in the message.
3	1.1.131 Debt Info Response	New Field "Error Text "added in addition to the Error code field.
4.	1.1.132 Debt Market Data Info Request	Market picture Enquiry message introduced for Debt instruments.

Changes compared to version 7.06

Sr. No	Section	Description
1.	1.1.1 Order Types	New description added for early recall and return which is applicable for SLB segment.
2.	1.1.55 Trades information 1.1.65 Trade Information 2[Trade Download] 1.1.69 Personal Orders/Block Deals UMS 1.1.70 Personal Return Orders 1.1.72 Add /Update /Delete Limit, Market & Stop-loss Order Request 1.1.86 Trades Notification 1.1.89 Trades Notification 2[Real Time]	New Values a) Recall. b) Early Return added for Field <i>BuySell</i> which is applicable for SLB market only
3	1.1.91 Risk Reducing Mode Notification 1.1.92 Capital Information Notification 1.1.98 Position Limit Notification	New Value "SLB" added for Field <i>SegmentType</i> which is applicable for SLB market only

Changes compared to version 7.07

Sr. No	Section	Description
1	1.1.91 Risk Reducing Mode Notification	Field Segment type is made filler
2	1.1.98 Position Limit Notification	<p>The change is applicable in Currency segment. The currency segment is further classified into asset class i.e. currency derivatives and interest rate derivatives. The new classification is included in the field "Segment Type".</p> <p>The Field "Alert Type= 4" may be sent either at the parent segment level (e.g. Currency) or at the asset class level (e.g. currency derivatives or interest rate derivatives products) values for which are included in field "Segment Type".</p> <p>Scenario A: If notification of "Alert Type= 4" is sent for parent segment i.e. Segment Type= 3, then the member is in risk mode for all asset classes automatically.</p> <p>Scenario B: If notification of "Alert Type= 4" is sent for any of asset class level i.e. Segment Type= 4 or 5, then the member is in risk mode for the respective asset class only. (Asset class identifier is available in the BFX_CO file)</p>

Changes compared to version 7.08

Sr. No	Section	Description
1.	1.1.113 Market Picture Broadcast [2020] 1.1.58 Market Data Info Response [2111]	A “ <i>Filler</i> ” field of long datatype will be used to provide the Block Deal Reference Price. This price is provided in context of the SEBI Circular CIR/MRD/DP/118/2017 dated 26th October 2017.
2	1.6 Index Code mapping	New Index with index code 50 introduced.

Changes compared to version 7.09

Sr. No	Section	Description
1.	1.1.112 Session Change Broadcast	<p>In Currency Derivatives segment, the “<i>closing session</i>” in Session change broadcast message will be sent multiple times.</p> <p>Trading in INR currency-based products will stop at 5 PM while cross currency products trading will stop at 7:30 PM.</p> <p>In order to support this different closing at different times, the field “<i>Product ID</i>” in Session change broadcast message will provide the information about the product for which the session broadcast message is applicable.</p> <p>The member application has to stop trading for those products for which the “<i>closing session</i>” is received and continue trading for other products.</p> <p>The Product ID information is part of the contract master BFX_CO_ddmmyy file.</p>
2.	1.1.98 Position Limit Notification	<p>As per Exchange circular number 20170920-10 dated 20th Sep 2017 and SEBI notification SEBI/HO/MRD/DP/CIR/P/2017/102 overall rupee based proprietary position limit alerts will be sent to all active trading members having prop level open position in Currency Derivatives segment.</p> <p>The field “Client ID” will be populated with value “OWN” if the alert is sent for the proprietary account.</p>

Changes compared to version 7.10

Sr. No	Section	Description
1	1.1.10 Algo ID	Description added for a new regulatory field "Algo ID". It is introduced in order messages and is required for algorithmic orders as prescribed by SEBI vide circular number SEBI/HO/MRD/DP/CIR/P/2018/62
2	1.1.56 Trades Information 1.1.66 Trades Information 2 1.1.70 Personal Block Deal UMS 1.1.71 Personal Return Order 1.1.72 Personal Stop-loss UMS 1.1.73 Add/Update Limit, Market & Stop loss order 1.1.74 Add/Update Limit, Market & Stop loss order reply 1.1.75 Block Deal Order request 1.1.76 Delete Instrument request 1.1.77 Add update delete transaction reply 1.1.78 Multileg order request 1.1.80 Multileg Execution 1.1.81 Mass quote request 1.1.87 Trade notification 1.1.90 Trade notification 2 1.1.92 Risk Reducing Mode notification 1.1.122 Debt Order Request 1.1.123 Debt Order Response 1.1.126 Debt Trades Information 1.1.128 Debt Personal Order UMS 1.1.130 Debt Trades Notification	New Field " <i>Algo ID</i> " introduced to capture the Algo ID as mandated by SEBI. New filler fields and reserved field added for future use.
3	1.1.74 Add/Update Limit, Market & Stop loss order reply 1.1.77 Add Update Delete Transaction 1.1.123 Debt Order Response	The size of field <i>Reply Text</i> has increased.

Changes compared to version 7.11

Sr. No	Section	Description
1	1.1.94 Broker Suspension Notification	New enumeration " <i>E</i> " Added for commodities segment under field " <i>MarketFlag</i> "
2	1.9.99 Position Limit Notification 1.1.93 Capital Information Notification	New Enumeration 6=Commodities added under field SegmentType
3	1.1.13 Price	Price precision of 2 decimal applicable in commodities segment.
4	1.4 Reason code for Message 3233	New reason for Client RRM for Product (250) and Client suspension (251) added.

Changes compared to version 7.12

Sr. No	Section	Description
1	1.1.100 Position Limit Notification	<p><i>Filler 3</i> field used to indicate the contract duration on which the MWPL alert is applicable.</p> <p>New enumeration added in field scope for MWPL RRM of member in near month contracts.</p> <p>Applicable in commodities derivatives segment</p>
2.	1.4 Reason code for Message 3233	<p>New reason added for Client RRM for Contract, Member RRM for a contract & Client RRM</p> <p>Applicable in commodities derivatives segment</p>
3	1.1.86 Quote cancellation notification	<p>The cancellation of a quote in a specific contract is sent using this message.</p> <p>Applicable in commodities derivatives segment.</p>

Changes compared to version 7.13

Sr. No	Section	Description
1	1.1.9 STPC Flag	Description added for STPC (Self Trade Prevention Check) preference in order and its behavior in matching.
2.	1.1.74 Add /Update /Delete Limit, Market & Stop-loss Order Request 1.1.124 Debt Order Request	<p>Filler field "Filler 4" termed as "STPC flag" used to accept preference for STPC cancelation.</p> <p>The preference is applicable in addition request only and the preference sent in modification request will be ignored and for modification request, the preference of original addition request will be considered.</p>