

# **BOMBAY STOCK EXCHANGE, LTD.**



## **HANDBOOK FOR IML Ver 2.0**

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# HANDBOOK FOR IML

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# 1. OVERVIEW OF IML

## 1.1 Need for IML (Intermediate Message Layer)

The Stock Exchange, Mumbai (BSE) started the Screen Based Trading in March 1995 and is operational with over 12000 Trader Work Stations (TWS) located across 500 cities in the country.

Given the need to integrate the BSE Trading platform with content and other analytical features as part of customising the order routing software, BSE has decided to open up its trading system interface. The Intermediate Message Layer (IML) Members can now develop their own trading front ends and interface with the Exchange through the IML.

The Stock Exchange, Mumbai (BSE) gives its members the option to choose from various front-end software. To bring in outside agencies to develop these, BSE has published an Open Message Bus (OMB). The software that interfaces with Central Trading System (CTS) is called the Intermediate Message Layer (IML).

## 1.2 Introduction to IML

The IML system interfaces between the third party developed Dealer Server Systems (DSS) and BSE's CTS. The DSS using BOLT will be trading from their own host machines using a set of messages under a protocol called the Open Message Bus. The open message bus will be updated and circulated among approved third party vendors by BSE from time to time.

IML interfaces with CTS in a reliable and secure manner. IML also routes point-to-point messages between multiple DSS connections to the CTS. The Broadcasts coming from CTS are re-broadcasted on the DSS network. IML passes on every encrypted message after decryption to members DSS. IML is provided for a broker and maximum of 255 Traders can connect simultaneously though one IML. Following is a diagram of IML and other related BSE systems:

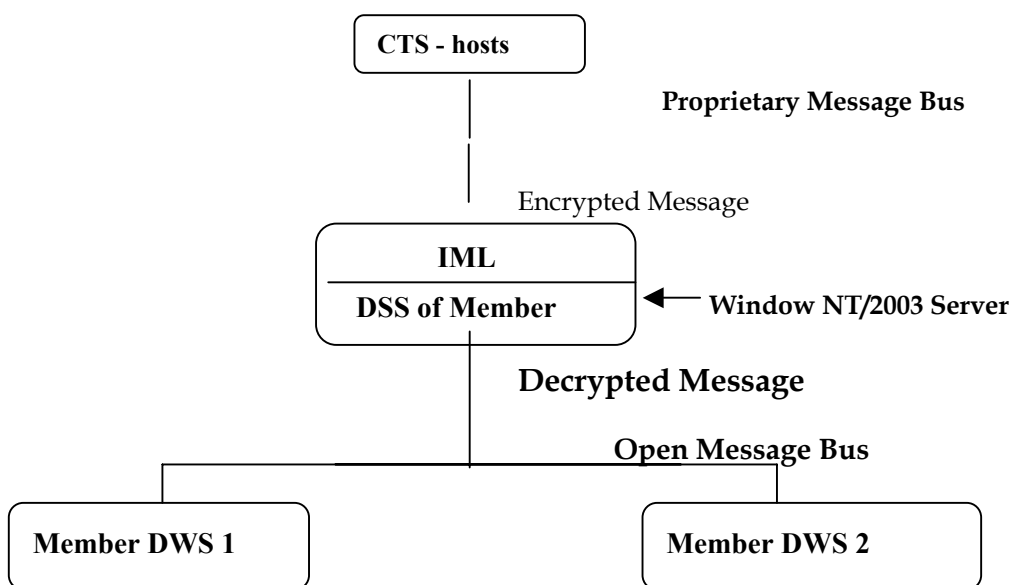
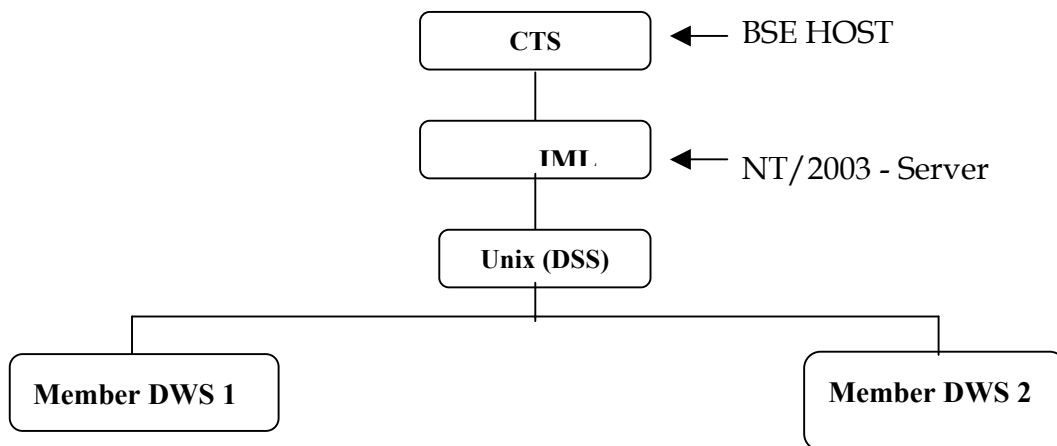


Fig. 1

**Member may use 'Unix' Server for DSS as follows:**



**Fig. 2**

### **1.3 What can the IML be used for?**

IML is to be primarily used for routing orders through the Dealer Server System or through Internet (ITORS).

The ancillary functions for use of IML would be:

- ⇒ Back office integration,
- ⇒ Enhancing content,
- ⇒ Integration with Third party content amongst others.

It may please be noted that the IML has to be used primarily for trading purposes.

#### **IML data**

IML provides for sending as well as receiving data.

- ⇒ Members can place orders
- ⇒ Query on their order status
- ⇒ Receive trade and order confirmations
- ⇒ Receive market data including quotes.

#### **Usage of market data**

The usage of market data will be governed by the Member data feed agreement that will be issued soon. The policy for Members include the following:

1. Consideration to be paid as per the agreement for Internet based trading systems,
2. Data can be used to display to their trading clients only on their Dealer Server or through their Internet trading portals,
3. Data cannot be used for display on the websites,
4. Data cannot be resold or redistributed/repackaged in any form whatsoever.

Members need to declare the use of IML data per keystation where data is displayed in the format specified in the **Annexure D**.

Any usage of data beyond the trading realm for display purposes for internal use/ trading clients will be governed by the data feed agreement. Members are requested to collect the data feed policy from BSE.

## 1.4 Hardware and Software Platforms

The IML hardware platform of the BOLT is as follows.

- Pentium PIII or higher machine with 128 Mb RAM
- 2 network Cards – The IML machine will have two network cards. One connecting IML to the CTS at BSE and the other connecting it to the DSS. Note that the two networks will be different.
- 8.4GB Hard Disk.

This must be configured to run on Windows NT Server 4.0, Windows 2000 professional, Windows 2003 operating system. Higher hardware configuration can be chosen for higher performance.

## 1.5 System functions

IML allows multiple simultaneous logons by the DSS.

IML works on TCP/IP and UDP/IP sockets provided by Windows NT/2000/2003. IML listens on a 5001 port for connection requests from the DSS. Upon receiving such a request, IML sets up a corresponding link with the CTS and grants a link to the DSS. Hence, any message coming from DSS is converted and encrypted and sent forward on to the CTS. The messages coming from CTS are converted and decrypted and passed on to the corresponding DSS depending on the incoming link.

IML listens for broadcast on well-known port, and rebroadcast it on DSS network on another port.

IML handles following types of messages:

1. Unsolicited point to point messages from CTS to DSS,
2. Requests from DSS to CTS,
3. Replies from CTS to DSS and
4. Broadcast messages coming from CTS.

## 1.6 Installing IML

For installing IML, one needs to have DLOAD Utility provided by BSE that is to be copied in C:/BOLTNTSBT directory of target machine. After running this utility, it will prompt for the drive on which one needs to install IML. After this, a window appears on the screen from which one has to double click on label IML. This will open the window with labels DISK1.ZIP AND DISK2.ZIP. Double Click on the two labels, which will download both these ZIP files in C:/BOLTNTSBT. After this, unzip both files. Then from the DISK1 directory run the setup and follow the instructions.

After successful installation of IML one needs to enter the member id, trade id and term id in IML.INI file, as provided by BSE.

## **1.7 Starting IML**

Having successfully installed IML, to start it, the user should open the "iml" window under program manager and double click on the "IML" program in it. IML runs continuously in the background. Take care not to run multi-task unfriendly programs while IML is being used for eg, edit under DOS certainly abhors true multitasking.

## **1.8 Stopping IML**

The IML application window is always blank. It has a system menu from which user can use the close option to stop IML. One may also use Alt-F4 after switching to the IML task to achieve the same result.

## **1.9 Downloading new releases**

New release of IML will need to be downloaded using the DLoad utility.

## **1.10 Abbreviations**

A compilation of the abbreviations used in this handbook is given for easy reference:

BSE Bombay Stock Exchange,

IML Intermediate Message Layer,

CTS Client Trader Station,

DSS Dealer Server Systems,

TWS Trader Work Station,

OMB Open Message Bus,

ISD Information Systems Department,

D-IML Derivatives Intermediate Message Layer,

B-IML Book Building Intermediate Message Layer

## 2. PROCEDURE OF PROCURING IML

Members desirous of subscribing /procuring "IML" need to follow the following procedure:

1. Members should convey their intention to DOT(Department of Operations and Trading) on the 13th Floor to procure IML in the Application Form enclosed as Annexure A.
2. The member is requested to submit the Application Form duly filled in alongwith the requisite charges as specified in Annexure B. The pay-order /DD should be made in favour of "Bombay Stock Exchange, Ltd" payable at Mumbai.
3. On receipt of the Application Form, DOT will issue a copy of the IML Agreement that the member needs to sign with the Exchange if the member is availing this facility for the first time.
4. On completion of the above, trading member should collect the details of Live Id after 2-3 Trading days from BSE's Help Desk (Extn: 5000).
5. If tested Id is needed a mail should be marked to Ms. Chhaya Bangera, Asst. Manager - DOT. This facility is available to members having in house development of IML software only. Members having empanelled vendors software should make the request for test ids to their respective empanelled vendor.
6. Trading members if applying for ITORS should submit a copy of BSE ITORS Audit Approval Certificate alongwith Annexure-A.
7. For procuring IML for ITORS purpose audit of the software is mandatory. Member needs to download ITORS Handbook from [www.bseindia.com](http://www.bseindia.com) or contact Mr. Chirag Sodawaterwala, Membership Department for further details of ITORS Audit.
8. **IML applications and agreements will be accepted between 11.00am to 1.00pm.**

**Annexure A - Application for Intermediate Message Layer (IML)**

**IML / D-IML / B-IML  
Activation / Addition / Cancellation**



**BOMBAY STOCK EXCHANGE, LTD**

**Date:** \_\_\_\_\_ **Clg No** \_\_\_\_\_ **IML id No.** \_\_\_\_\_

Name of Member Firm: \_\_\_\_\_

Name of Designated Director: \_\_\_\_\_

Regd. Office Address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Telephone Nos: \_\_\_\_\_

Contact person: \_\_\_\_\_

Address for Installation \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Purpose of Procurement:  Order Routing  ITORS (Please attach BSE ITORS Audit Approval Certificate )  
**(If not checked will be assumed for Order Routing)**  Back office  Others (Please specify)

\_\_\_\_\_

IML Vendor Name: \_\_\_\_\_

Cheque details (IML Charges) \_\_\_\_\_

IML is to be installed on: Ethernet / Lease Line / VSAT (Tick appropriate Stage)

Site Code (Compulsory) : \_\_\_\_\_

BOLT Activated at the address of Installation: Yes/No

I hereby undertake to abide with the terms and conditions stated in the notice and all relevant terms and conditions circulated by BSE from time to time.

**Signature of the Member**

**Rubber Stamp of Member**

**For BSE's Use only**

IML Charges paid Y / N

Agreement Signed Y / N

Vendor Empanelled / Non-Empanelled (Name: - \_\_\_\_\_)

## Annexure B - Charges for Procuring IML

### ONE TIME PAYMENT FOR BROKERS

No. Of Ids	Revised One Time Charges for Brokers coming Through	
	Empanelled Vendors	Non-Empanelled Vendors
Registration Fee (One Time)	Nil	Rs. 1,00,000/-
IML Id Charges (Annual)	No Charges	Rs. 25,000/- p.a. flat for unlimited Ids

### REVISED ANNUAL USAGE CHARGES FOR BROKERS

No. Of Ids	Revised Annual Usage Charges for Brokers coming Through	
	Empanelled Vendors	Non-Empanelled Vendors
Per Id	Nil	Nil

**Note:**

- No refund will be given to the Members for cancellation of IML.
- List of IML vendors who are empanelled with BSE is given in Annexure C.
- The aforesaid Annual Usage charges will be recovered through Clearing House Billing System.

## Annexure C - List of Vendors Empanelled with BSE

SR. NO.	NAME OF VENDOR	CONTACT PERSON	TEL NO.	ADDRESS
1	Financial Technologies	Anup Shah / Ganesh Shenoy	022-26831022	2nd Floor, Trade Avenue Suren Road, Chakala Andheri (E), Mumbai 400093.
2	SDG Software Technologies	Ravinder Reddy/ Amitabh Chakrabarti	040-23378190 /191	501, Babukhans Millennium Centre, 6-3-1099/1100, Off Rajbhavan Rd, Somajiguda, Hyderabad-500082.
3	SSI Technologies	Sanjay Pandey / Sangeeth Kumar	22834870/ 22026166/ 22830860	901/902 Regent Chambers, Nariman Point, Mumbai 400 021.
4	Reliable Software Systems Pvt. Ltd.	Kiran Sagarkar	26350246/48 /49 56935311/12	42, RNA Arcade, 1 <sup>st</sup> Floor, 3rd Cross Lane, Swami Samarth Marg, Lokhandwala Complex, Andheri (W), Mumbai 400 053.
5	TCS	Arjun Marphatia, Bharat Shah, Naresh Parekh	28845513 -4, 28861180, 28870193	Air India Bldg, Nariman Point, Mumbai 400 021.
6	Elind Computers	Rizwan Kazi, Gopal Chhetro, B Venkatasaravan, Mahesh Nayak	56614712 Fax- 56626290	403, 4th Floor, Manish Commercial Complex, Dr. A. B. Road, Worli, Mumbai-400 025
7	Net Equity Technologies India Ltd.	Prateek Gupta, S M Pathak, J P Gupta	22659447 /8	49/B Hanuman Bldg., 3rd Floor, Perin Nariman Street, Fort, Mumbai 400 001.
8	Trigyn Technologies	Amit Badiyani, Kurien George, Kamalakar Karshid	25188686	A1, Godrej Soaps Complex, Vikhroli (E), Mumbai 400 079.
9	CMC Ltd.	Amandeep Oberai	26541000 /1 /2	CMC House, C/18, Bandra Kurla Complex, Bandra (E), Mumbai 400 051.
10	Asian CERC	Shivraj/ Madhur / Hari	080-51104235/ 36/4246	B7, 17th 1st Main, KHB Colony, 5th Block Koranmangala Layout, Bangalore-560095.
11	NSE.IT Ltd	Navneet Sharma	22-28269864	NSE.IT Limited, Trade Globe, Ground Floor, Andheri-Kurla Road, Mumbai 400 059.

## **Annexure D – Procedure for Internet Trading Order Routing System**

- Member must procure the Minimum Requirements Handbook pertaining to the eligibility criteria and the minimum requirements expected of a Member system for Internet Based Order Routing System.
- On Completion of development of system Member should apply for ITORS in Form A as in Minimum Requirements Handbook to Mr. Chirag Sodawaterwala (Extn:8156) Membership department. on the 28th Floor, PJ Towers, Dalal Street, Fort, Mumbai 400023
- Audit of the system will be done as per requirements of SEBI and the Minimum Requirements Handbook issued by BSE. (Audit charges will have to be borne by the Member) For audit details contact Mr. Chirag Sodawaterwala (Extn:8156) Membership department.
- Based on the Audit Report, an approval will be granted by the Exchange to go live.