

# InterTrade

## Securities Trading System

Can your computer system today support you in the age of electronic information delivery, internet trading, and integration with other technologies such as mobile devices?



## A Complete Securities Trading Solution

Excel InterTrade System is an AMS/3 enabled securities trading and settlement system that offers straight-through-processing securities trading, clearing and settlement and supports multiple markets, companies, currencies, products and languages. The system is designed to help securities companies of all sizes to cope with the all-electronic securities processing requirements in a complete online environment.



**Excel**  
TECHNOLOGY

The complete InterTrade System is designed to integrate the InterTrade Trading (Front Office) System with the Settlement (Back Office) System on a real time basis. The straight-through-processing allows the system connect to settlement system via gateway. Any change of client's cash and instrument position caused by order processing or settlement activities are updated real time. This can improve risk management control and eliminate unnecessary human intervention.

# Functions & Features Highlights

## Account Opening & Maintenance

InterTrade supports account opening workflow. It allows front-office staff, or even customers themselves, to send in account opening and update requests, and electronically route them to the responsible departments, e.g. credit control, for verification, setting credit and approval. Subject to the specific approval procedure, a customer can start to trade in minutes after submitting an account opening application.

## Multiple Means of Order Capture

InterTrade offers multiple means of capturing a buy/sell order via:

- Account Executive Workstation (PC)
- Internet
- Interactive Voice Response Unit
- Mobile Devices
- Self Service Kiosk
- FIX Gateway

InterTrade will examine any incoming buy/sell order automatically for credit control to ensure cash and margin positions are properly checked and earmarked. InterTrade will also perform compliance checks to ensure no rules or limits are being violated before the orders are distributed to any InterTrade execution agents for execution. If any of the checks fails, those orders will be routed to credit control for exception processing.

To minimize the learning curve of AEs, InterTrade also provides multiple order input screens to facilitate AEs migrating from other systems.

## Order Queuing & Distribution

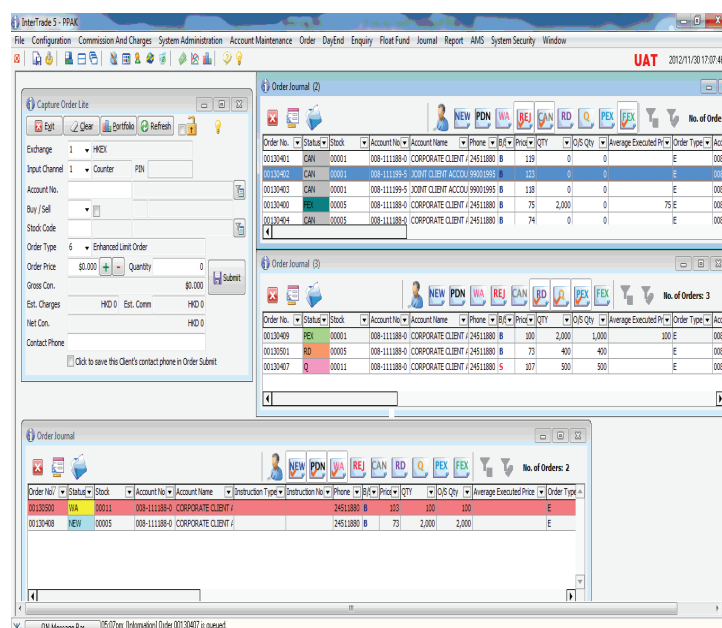
Electronic orders are queued based on pre-configured rules, e.g. by market type, order type, priority etc. and distributed to the appropriate execution agents.

An InterTrade execution agent can be a dealer working with a foreign market broker agent; a dealer working with an HKEx AMS/3 terminal and InterTrade Dealer Workstation; the electronic gateway to an exchange such as HKEx AMS/3 OG(the future OCG), or even a FIX protocol software interface.

## Order Monitoring

Orders at any stage can be monitored through InterTrade by the customers at home (using Internet) or the account executives at the branches.

Order confirmation from exchange can be sent to users through different channel. For example, an internet customer can choose to have his confirmation sent to his mobile phone or electronic mailbox. Alternatively an order input by an account executive at the branch can be confirmed directly through the InterTrade Order Journal or customer's electronic mail.



A typical Account Executive workstation with "Order Capture" to accept order input and 3 instances of Order Journal to monitor orders of different status

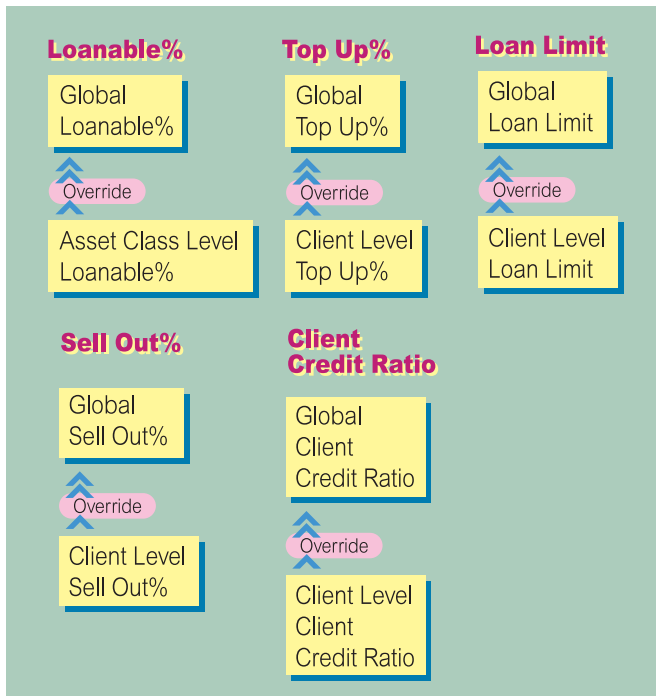
## Investment Compliance

To ensure the financial soundness of a brokerage firm, there are often investment rules defined for individual equities, accounts, and the entire company. These rules are to control the risk of the company so that any financial exposure can be handled immediately.

InterTrade provides facilities to define these investment rules and exposure limits, and integrates with the order capture function to ensure that any orders received comply with these rules. If these investment rules are violated or any of the exposure limits are exceeded, the orders will be either rejected or sent to management for exception processing.

## Margin Monitoring

The margin monitoring module provides facilities to define flexible business rules for monitoring the exposure of margin clients. The margin parameters that can be configured are shown in the diagram.



Margin Control Parameters

With these margin parameters, along with a real-time instrument price feed service (if available from the brokerage house), the real-time Margin Monitor will periodically alert users of any necessary margin calls.

## Collateral Monitoring

The Collateral Monitoring module provides configuration of different types of collateral for margin accounts.

For each collateral type configured, a loanable percentage can be defined.

## Customer Communication

According to the preference of customers, information can be delivered to customers by InterTrade through different channel, including email and SMS.

Examples of information that could be sent are:

- Price Alert
- Execution of a Standing order
- Advice

## Online / Internet Trading

InterTrade is designed with Internet trading in mind. The Internet Trading module, basically an Internet browser, is just another form of input in InterTrade. Orders coming in from this interface are subject to the same control and checking as if they are received from an Account Executive workstation.

The screenshot shows the InterTrade 5 software interface. The top section displays account information for account number 0000002. Below this, there is a table of orders with columns for Order No., Status, Stock, Stock Name, Product Type, Account No., and Price. The bottom section shows a Real-Time Quote for CHEUNG KONG, including Nominal, Bid, Ask, and Last Trade Report.

Real-Time Quote and Order Journal

Depending on the availability of live data feed and other sources of information, the Internet Trading module can be tailored to provide the following to the internet customers:

- Real-time stock quotation and financial information
- Account management functions
- Order management (buying, selling, tracking etc.)
- Online order execution for Hong Kong stocks with the support of AMS/3 OG (future OCG) of HKEx
- Portfolio, position and margin enquiries

## Horizontally Scalable and High Availability (Resilience Module)

- Each component can be both vertically and horizontally scaled. The number of instances of each component can be tailored for each customer environment to optimize the return on hardware investment
- Load balancing can be set up for each function, function group or customer group
- Automatic fail-over of components to ensure high availability
- A centralized JMX compliant management console is provided to manage and monitor each server and software component

## Integration with Settlement System

InterTrade is designed to easily integrate with any existing settlement system, and will be tightly coupled with the InterTrade Settlement module. This straight through processing does not only save resources but also avoid human errors. The following events are available in the front (InterTrade) and back office (InterTrade Settlement) systems.

- Executed trades are captured from InterTrade and sent to Settlement module for real time processing
- Instrument master information. Any update on existing instrument or newly added instrument received from HKEx's AMS/3(future OMD) will be updated and sent to settlement system real time
- Cash movement transactions are entered in Settlement module and updated to InterTrade client position real time
- Stock movement transactions are entered in Settlement module and updated to InterTrade client position real time

The above straight through requests will be stored as messages passing between InterTrade and Settlement modules for recovery and acknowledgement.

## Special Features

- FIX gateway - Provide FIX interface to send orders to external brokers via InterTrade. The interface supports order placement, amendment, cancellation, acknowledgement and execution report
- HKEx AMS/3 (future OCG)
- Compliance with SFC's requirement in relation to Investor characterization
- Good Till Cancel Order
- Stop Loss Order
- Two-Way Limit Order - Standing Instruction that allows user to input a sell order at specified price limit or Stop Loss Order
- Target Buy Sell Order - Day order that allows user to input buy order together with either a profit taking sell order or Stop Loss Order. The sell order will only be triggered after the buy order is fully executed

## Technical Information

InterTrade employs the latest software development approach of multiple-tier architecture. That is, the graphical presentation, the application logic and the database functions can be separately run on different machines, if necessary (to increase performance, security and ease of maintenance). InterTrade can work with any relational database management system with JDBC compatibility.

The basic requirement for InterTrade is:

- An UNIX, Linux or MS Windows server, running
  - A relational database such as MySQL, DB2, Oracle 11g
  - Visibroker from Inprise or Jacorb
  - Web server such as Apache, Websphere and Weblogic
- PC clients running MS Windows as user workstations
  - Core 2 Duo based PC with 1GB memory



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