VALDI
VALDI SOLUTIONS FOR EQUITY TRADING

Traders on electronic markets face enormous challenges in maintaining and growing their profitability. The drive for greater efficiency is inevitably relentless in a highly competitive environment, where commissions and margins are under constant pressure. At the same time, there are many demands for greater transparency and compliance with changing market regulations.

There is also an important worldwide trend towards competition between trading venues, partly driven by regulatory change, which brings with it a further set of business and technology issues that have to be addressed.

SunGard’s suite of products to address these electronic trading challenges for sell-side equity businesses is brought together under the Valdi architecture. Valdi encompasses two core trading software suites, one focused on the specific requirements of the North American markets, the other (described in this brochure) having global scope. The two suites share many common technologies, including the Valdi EMS for buy-side clients, and are fully interconnected via the SunGard Global Network.

The global Valdi product suite is an integrated and modular offering that provides:

- client application and broker connectivity to global markets via FIX, the SunGard Global Network and the Valdi EMS,
- advanced execution capabilities at workstation level,
- a full-function order management system,
- a suite of building blocks, tools and services for algorithmic trading,
- smart routing and associated capabilities for trading in fragmented markets,
- flexible pre-trade risk management, integrable across diverse trading platforms,
- high-performance gateways for 130+ markets worldwide
The Valdi suite supports trading on all listed asset classes across an unrivalled range of electronic markets: over 170 worldwide. The core order and execution management functions are supported coherently via process ‘blades’ on the high-capacity Valdi Core Server.

The Valdi architecture provides all data, from electronic trades and also those captured manually, required for STP to middle and back office systems, including SunGard’s Stream suite of post-trade solutions.

CLIENT AND APPLICATION CONNECTIVITY

The success of a trading architecture starts with its ability to collect efficiently all types of incoming business from clients and trading applications. The Order Flow diagram above illustrates the various possibilities available in Valdi:

- The Valdi suite can accept orders from any source inFIX and other protocols via the Valdi Bus: a high-performance middleware platform for management of multi-protocol connections and message routing that forms the heart of the Valdi architecture.
- Orders may be collected from clients via the SunGard Global Network from third-party order routing networks, or via the Internet.
- Buy-side trading desks often use the Valdi EMS, which offers order staging, algo trading and pre-trade risk management capabilities. Most often used for Direct Market Access (DMA) trading, the EMS may also be used to route care orders to brokers’ order management systems.
- SunGard’s FIX Network Service enables all incoming FIX traffic from clients to be integrated into a single, coherent FIX session.

“The SunGard Global Network links us to our brokers for a wide range of markets, while the Valdi EMS supports the specific characteristics of each market. For me, it's the complete trading toolkit.”

- Philipp Schaltschi,
  Associated Partner,
  Tungsten Capital, Frankfurt

WORKSTATIONS: THE VALDI TRADER RANGE

Our core offering is Valdi Trader - a fast, robust multi-asset trading station with innovative order sending and monitoring features adapted to the specific functionality of each supported market, and displaying real-time P&L. Valdi Trader is an established reference worldwide, and for advanced execution Valdi Trader Plus adds a range of further trading capabilities.
Valdi OMS Trader is our multi-asset front end for agency trading and market-making, offering a high level of automation and designed to handle complex order flows in conjunction with the Valdi Order Management System. Order management, execution and allocation functions or both client and market orders can be handled in real time from a single interface.

**ADVANCED EXECUTION**

Trading on electronic derivatives markets gives a range of opportunities to use technology for much more than the sending of orders and receipt of confirmations. The right software and market data can provide significant levels of support to achieve effective trading decisions and order execution. In fact, to handle efficiently the large order volumes and lot sizes that are often today’s market standards, this support becomes a necessity.

**A RANGE OF SOLUTIONS**

SunGard has been a pioneer across the field of electronic trading techniques since the earliest days of screen trading, and over the years we have developed a wide range of products and interfaces to support advanced execution techniques.
AUTOMATED TRADING

Available as an application on all trading workstations, Valdi Automate allows users to build automated trading strategies in MS Excel or other application environments. These strategies may be triggered by market events and movements, and may also include a wide range of algorithmic techniques.

PROGRAM TRADING AND TCR

Valdi Program Trader provides a full range of capability to support program trading activities: multi-level basket management, waving and scheduling, and in-depth Transaction Cost Research (TCR) functionality.

The basket trading capability of Valdi Program Trader is often used to support index arbitrage strategies, so the multi-asset capability of Valdi to support trading across both cash equity and futures markets is leveraged.

COMBINED STRATEGIES

Valdi Combo Trader enables brokers and proprietary traders to optimize their execution capability by creating tailored multi-instrument trading strategies. The application supports multi-asset trading across multiple markets: its most typical application in the equity markets is in pairs trading, but it can also support more complex multi-leg strategies.
ORDER MANAGEMENT

Order management is a vital and complex activity in every brokerage business: from order capture to allocation, there are many functions involved in a sell-side firm’s work on the care order flow received from buy-side clients. A range of optimized and high-performance business processes and trading capabilities is required in order to ensure best execution.

The Valdi OMS automates the sales-to-dealer relationship on the basis of flexible rule sets (including multi-site), enabling the efficient processing of large volumes of transactions, on the scale of thousands of orders per second with millisecond latency, and load balancing across multiple market gateways.

Based on functionally dedicated technology, the Valdi OMS can handle rapid execution of large order baskets. The base OMS package allows traders to carry out all standard order management tasks, such as order capture, slicing, connectivity to connected and non-connected markets. A wide range of additional functionality is available via optional modules: allocation of orders to client accounts, Indications of Interest, position keeping, and integrated risk management across DMA and care order flows.

“The Valdi OMS enables us to handle high volumes of varied client order flows, enabling straightforward implementation of the complex business logic that’s involved.”

- Badr Tahri Hassani,
  Director, Electronic Markets and Development,
  BMCE Capital Bourse, Casablanca

MARKET MAKING

The pace of today’s markets places heavy demands of functionality and performance on the enabling software that supports market making. Tailored automation of the quotation function, in particular, is often a key business requirement.

SunGard takes full account of these demands in all aspects of our architecture: workstation front ends, application interfaces, position servers and market gateways. We offer a full range of market-making solutions for the equities, options and warrants markets.

Valdi Position Keeping forms the core of our architecture for equity markets, providing full historical P&L monitoring with a global view of trading activity. The structure of position monitoring is customizable in line with the client firm’s organization.

Valdi Market Maker provides a complementary front-end for Valdi Position Keeping, with a central Navigation Window that provides access to a set of market-making functional windows to view market depth, publish price quotes and enter trade reports.

Valdi Automate, described earlier, is a more general-purpose automated trading enabler, based on MS Excel. The strategy possibilities are effectively unlimited, ranging from mass orders to quote sending and replies, with the ability to make instant responses to changes in market conditions. Market makers also use Automate to link other application environments, such as external pricers.
ALGORITHMIC TRADING

Valdi Algo Trading provides a widely deployed, comprehensive library of synthetic order types (Iceberg, Peg etc.) and simple trading algorithms that can be applied to orders sent from any SunGard trading station or interfaced application. The companion development workbench, Valdi Algo Studio, allows users to develop more sophisticated, tailored algorithms with a minimum of programming knowledge, potentially using components from the Valdi Algo Trading library as building blocks.

SunGard has carried out numerous algo development projects with clients under the remit of our Valdi Algo Services offering, where we use Valdi Algo Studio to develop and implement specific strategies. In many cases, the algos that result from these projects can themselves be used as the basis for further projects. To support the development and back-testing of VWAP strategies, in particular, we apply SunGard’s Fame database resources to deliver Valdi VWAP Profiles.

SMART ROUTING AND MATCHING

We have developed Valdi Smart Routers for several different markets, across equities, bonds and options in the US, Europe and Asia. To maximise execution quality and speed, orders may be split across several markets, and a passive order waiting for execution on one market may be modified or cancelled if all or part subsequently becomes profitably executable on another market. The algorithms seek out displayed and hidden liquidity, and search for the best execution prices across connected venues. They can split an order across several destinations, taking into account the costs associated with this splitting and the available market depth. An order’s destination can be switched if trade prints occur, and sweeping strategies allow continuous monitoring of market changes, adapting execution policy automatically according to the current routing algorithm.

The Valdi Data Aggregator allows tailored monitoring of combined order books across all connected venues, while Valdi Trade Audit provides the mandatory data for long-term record keeping, audit trail and reporting.

Complementing the SOR capabilities, the Valdi Matching Engine provides a flexible technology platform for the development of in-house order matching services.

RISK MANAGEMENT

Business success depends on seeing the right information in the right context to take effective action, and this is especially vital in the control of pre-trade risk. Clearly there have to be tight boundaries, but it is equally important that these boundaries are defined in such a way that they do not restrict the activities of trading desks or their clients for DMA, algorithmic trading or care order services.

MULTI-ASSET AND MULTI-CURRENCY RISK MANAGEMENT

SunGard has developed a comprehensive pre-trade risk management architecture in Valdi Selector, designed to optimize trading firms’ ability to manage and make full use of available limits. Valdi Selector allows a particularly fine control of limits on a variety of dimensions and levels – market, department, desk and individual trader or client – and offers full multi-asset and multi-currency capability. The application is also designed to deliver low latency in high-volume trading environments.
Market-specific parameters enable compliance with the regulatory requirements of all supported markets.

All information is consolidated in one screen, so that every user – broker, proprietary trader or buy-side client – is able to assess current overall positions at a glance. Global and detailed position information is available as required.

Similarly, risk limits distributed across different markets can be used in support of one another in an integrated implementation of Valdi Selector.

FOR MULTIPLE TRADING PLATFORMS

The traders and DMA clients at many firms may access a particular market via multiple different applications: from trading workstations (often from more than one supplier), or directly via exchange APIs. The Valdi Global Execution Server allows the trading supervisor to monitor and control all trading activities across these diverse platforms, to have a global view of positions and risk in real time, and to optimize the use of available limits.
MARKET CONNECTIVITY

Many factors have led financial institutions to look increasingly beyond their national boundaries for investment opportunities, as well as across asset classes. Meanwhile many institutions, on both buy- and sell-sides of the markets, are themselves increasingly global businesses, with well developed worldwide operations.

Connectivity to electronic markets, both regulated exchanges and also over-the-counter market trading systems, wherever in the world they may be located, has therefore become a key requirement of the financial industry as a whole.

MARKET GATEWAYS

Since 1987, SunGard has been a consistent leader in enabling trading access to new electronic markets. Today we provide high-performance, low-latency trading and market data gateways for over 130 markets worldwide, and we continue to develop access to emerging electronic markets as a core element of our business strategy. We connect to all global equities and derivatives exchanges where we see a community of interest among international investors and their brokers, and in recent years we have also built gateways for numerous MTFs, ECNs and Dark Pools operating in world-wide equity and bond markets.

SUNGARD GLOBAL NETWORK: ORDER ROUTING AND MARKET DATA

The SunGard Global Network provides access to an even wider range of electronic markets – more than 170 in total – via its community of 500+ connected brokers. The network also delivers low-latency real-time market data from over 120 markets.

INSTALLATION OPTIONS AND FACILITIES MANAGEMENT

We can supply all of our market gateways for installation at clients’ trading premises or in co-location facilities at exchanges. We also offer Facilities Management services under which we can manage gateways, exchange connections and other SunGard applications for clients at our premises.

ASP SERVICES

Last but not least, we provide access to over 100 equity and derivatives markets via our fully managed and secure Valdi Market Access offering. This enables exchange members and their DMA clients to trade on all these markets from any workstation or application connected to the SunGard Global Network, free of concerns about technical infrastructure and connectivity. Over 500 market gateways accommodate close to 150 clients on this service, which uses state-of-the-art Linux servers and fast exchange connections to ensure low latency.

“We appreciate the SunGard team’s expertise when dealing with changes required by markets and regulators.”

- Daniel Mendes,
  Equity Derivatives Sales,
  BBVA Global Markets
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