



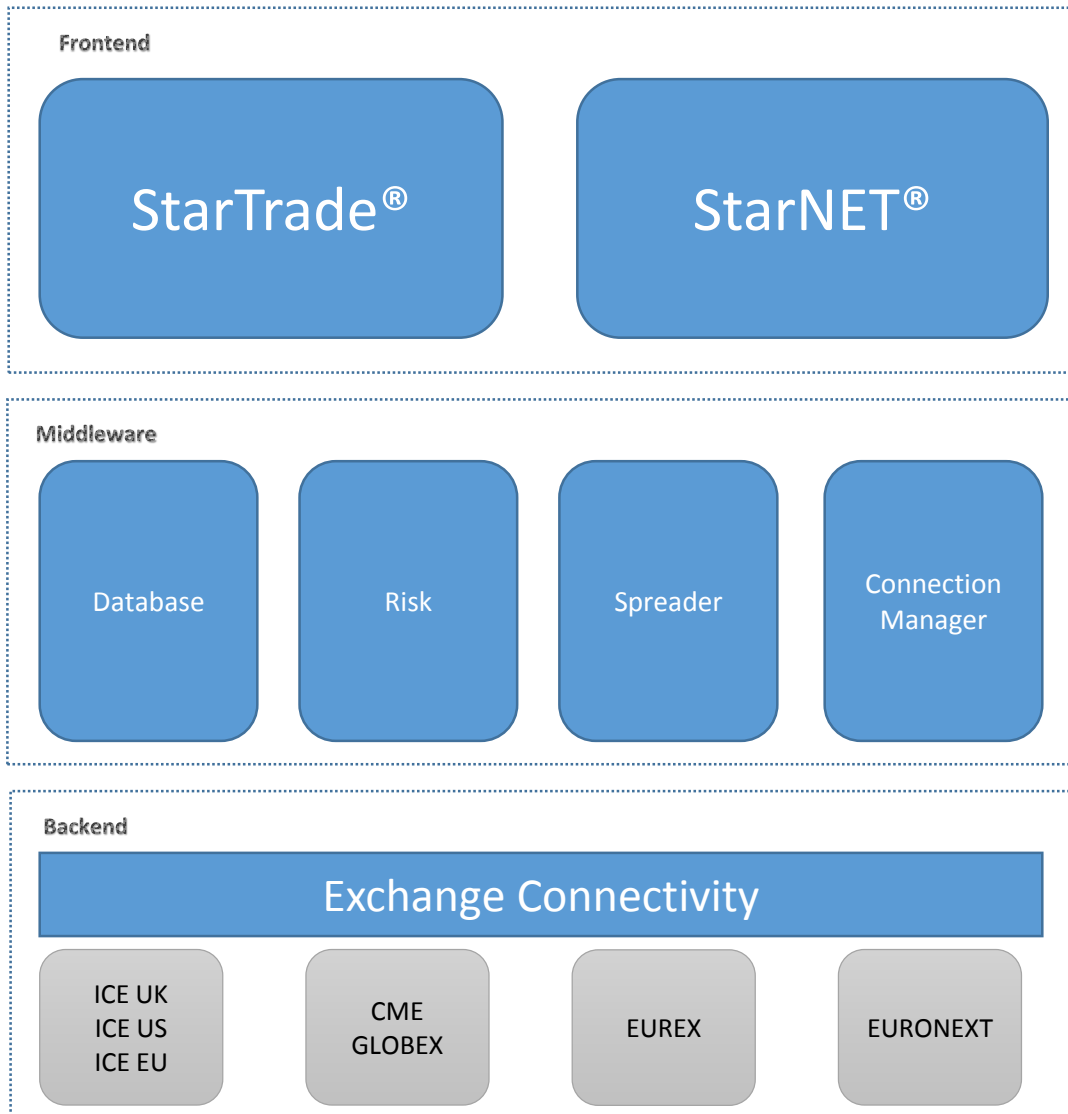
Starmark Technologies

DESIGNED BY TRADERS FOR TRADERS

www.starmark.biz



Starmark Technologies Platform



Starmark Technologies provides highly functional, fast and effective trading systems. StarTrade® is the front end GUI designed to be intuitive for a new or experienced trader. Outright and spread traders will appreciate the ease of order entry and synthetic spread creation. The Frontend components are hosted in London with Middleware and Backend hosted in Frankfurt. Traders can access their own configured Startrade® remotely without the need to rebuild their workspace as it is stored centrally. StarNET® is a web based platform providing position information including Value At Risk (the best way to understand your exposure), configure synthetic spreads, manage users (for group and company risk managers) as well as maintain static product data. Designed by traders for traders, StarTrade® and StarNET® deliver all the functionality and information you need to trade successfully.



StarTrade®

- Point and Click trading platform
 - Ideal for futures outright or spread traders
 - Ladder matrix
 - Suspend and resume orders
 - Economic Diary (auto suspend orders at predetermined times)
 - Auto filter filled order book on ladder
- Intuitive design
 - Lightweight
 - Easy to setup and use
 - Workspace stored centrally
 - Maximise screen usage
 - Tabbed interface
- Frequent upgrade release schedule

The screenshot displays the StarTrade trading platform interface. At the top, it shows the user is logged into server FRA-VM-ST1. The main area is divided into several panels:

- Market Ladders:** Multiple panels showing order books for various instruments like OAT10 Dec-15, Volbas_19 US US, EsuDax US US, Z_ESX_mini US US, and OATFly_equal Z5 Z5 Z5. Each panel includes columns for Order (Ord), Quantity (BQty), Price, and Quantity (AQTY).
- Product List:** A table on the left listing various products with their expiry dates, bid/ask prices, and volumes.
- Working Orders:** A table on the right showing active orders with columns for Product, Expiry, B/S, Ordered, Filled, and Price.
- Filled Orders:** A table below working orders showing completed orders.
- Deleted Orders:** A table at the bottom right showing orders that have been cancelled.
- Messages:** A log at the bottom left showing system messages and order acknowledgments.



StarTrade[®] - Architecture Notes

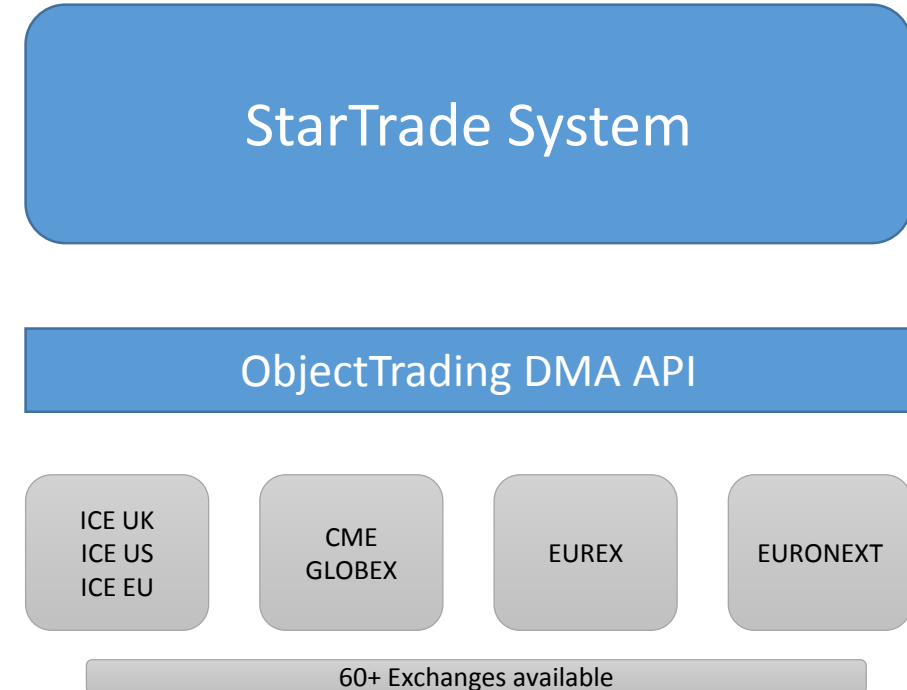
- StarTrade was built from the ground up using Microsoft's .Net framework.
- We use a custom sockets based API as a communications layer, allows the system to be deployed across multiple servers and locations.
- Key components implement a controller/instance design pattern allowing the system to scale with increased load.
- The GUI is deployed using OneClick technology, allowing easy upgrade to all users in a single action. (No need for IT staff to upgrade traders individually)
- Extensive logging across all components, using MMSQ technology, fast reliable centralised logging.
- Integrated Help system allows support staff to be more productive.





StarTrade[®] - Connectivity Layer

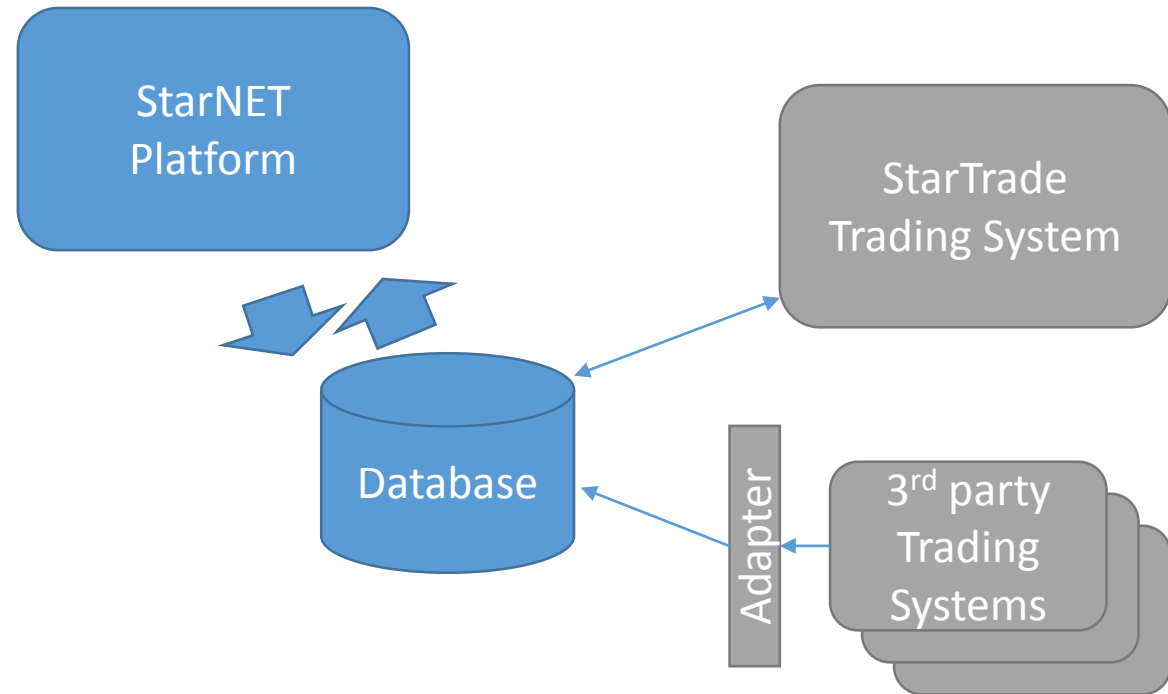
- Starmark Technologies has partnered with ObjectTrading to utilise their high performance Direct Market Access connections.
 - A single interface provides access to 60+ exchanges world wide.
 - No need to upgrade when exchanges change their API.
- Previously we had written directly to a number of exchange APIs.
- The architecture design allows the system be easily ported to other DMA providers (3rd party or direct to exchange)
- TCP connections are used for execution and UDP for market data.





StarNET®

- Web based platform that complements the trading system and provides many features, including:
- User and Global Risk management
- Value At Risk calculation
- Reconciliation service
- Settlement manager
- User administration
- Trading product maintenance
- Spread design interface
- Historical P&L tracker
- Integrated Help through zendesk





StarNET® - Risk Management

- Risk system designed to be intuitive and compact.
- Displays real time risk from StarTrade and 3rd party trading systems.
- Individual users log in to see just their positions, while group/company/house logins will see aggregated information.
- Tracks Opening Positions and trading activity for the day.

STARNET													
System	Security	User	Product	Clearing	Risk	Spreads	Info Lookups	Enter product				[Sign Out]	
House	House	Open	Pos	VaR Margin	NE	NEVA	Volume	Sett Price	Sett P&L	Price	P&L	Yest P&L	MTD P&L
	House	OPEN	OPEN	174,359	-52.9	-19.3	1,198		15,698		86,248	-29,934	36,403
Companies	Company	Open	Pos	VaR Margin	NE	NEVA	Volume	Sett Price	Sett P&L	Price	P&L	Yest P&L	MTD P&L
		FLAT	FLAT	0	0.0	0.0	0		0		0	-109	615
		FLAT	FLAT	0	0.0	0.0	0		0		0	1,086	3,958
		FLAT	FLAT	0	0.0	0.0	14		79		79	1,033	4,900
		OPEN	OPEN	114,166	-4.3	-10.8	569		4,660		56,006	-35,002	-27,421
		OPEN	OPEN	19,079	-2.7	-1.0	0		0		7,575	-7,219	1,885
		OPEN	OPEN	113,432	-45.2	-7.1	337		3,464		17,243	9,102	40,535
Groups		OPEN	OPEN	22,459	-0.7	-0.4	278		7,495		5,345	1,174	11,932
		OPEN	OPEN	22,459	-0.7	-0.4	278		7,495		5,345	1,174	11,932
Users		FLAT	FLAT	0	0.0	0.0	0		0		0		
		FLAT	FLAT	0	0.0	0.0	0		0		0	386	302
		OPEN	OPEN	22,459	-0.7	-0.4	278		7,495		5,345	788	11,630
User Position	BTP Dec 15	FLAT	-2	0	-2.7	-0.7	6	133.69	680	134,005	50		
	CAC Sep 15	FLAT	FLAT	0	0.0	0.0	28	4,659.5	-1,874	4,561.75	-1,874		
	DAX Sep 15	FLAT	FLAT	0	0.0	0.0	4	10,331	-1,590	10,124.5	-1,590		
	ESX Sep 15	FLAT	-3	0	-1.0	-0.7	103	3,272	3,024	3,203.5	5,079		
	FTSE Sep 15	FLAT	2	0	1.8	0.8	18	6,193.5	2,581	6,087	-449		
	GBL Dec 15	10	-6	0	-9.2	-1.7	28	154.05	10,463	154.695	6,593		
	GBM Dec 15	-40	FLAT	0	0.0	0.0	40	128.56	-1,610	128.655	-1,610		
	GBS Dec 15	30	FLAT	0	0.0	0.0	30	111.315	143	111.3075	143		
	OAT10 Dec 15	FLAT	7	0	10.5	1.9	21	149.36	-4,321	149.835	-996		

Details last updated at 13:36:06



StarNET[®] - VaR

- Historical VaR calculated in real time on net position (takes into account opening position as well as the trading activity for the day).
- Pre-set with 3 year 2 day hold 99.7% VaR.
- Easy to change parameters.
- Calculated on User, Group, Company and Global levels, each level accounting for aggregated position.
- Example shows how Group VaR is lower than the sum of the User VaR within a group. Users are holding offsetting positions (Sum of User VaR ~167k while Group VaR is 137k).

STARNET						
System ▾		User ▾		Product ▾		Clearing
House						
House	Open	Pos	VaR Margin	NE	NEV	
Admin	OPEN	OPEN	287,138	-13.8	-20.	
Companies						
Company	Open	Pos	VaR Margin	NE	NEV	
	FLAT	FLAT	0	0.0	0.	
	OPEN	OPEN	287,138	-13.8	-20.	
Groups						
	FLAT	OPEN	570	0.0	0.	
	FLAT	FLAT	0	0.0	0.	
	OPEN	OPEN	1,354	-0.3	-0.	
	OPEN	OPEN	175,872	22.2	-9.	
	OPEN	FLAT	0	0.0	0.	
	OPEN	OPEN	137,838	-35.7	-11.	
	FLAT	FLAT	0	0.0	0.	
Users						
	OPEN	OPEN	23,321	-0.6	0.	
	OPEN	OPEN	26,207	-24.7	-1.	
	OPEN	OPEN	8,619	-1.1	-0.	
	OPEN	OPEN	83,858	-8.7	-8.	
	FLAT	FLAT	0	0.0	0.	
	FLAT	OPEN	22,219	-0.4	-1.	
	FLAT	OPEN	5,653	-0.2	0.	
Group Position						
BRN Dec 16	FLAT	FLAT	0	0.0	0.	



StarNET® - Reconciliation

- Reconciles clearer position and activity files with trade information in our database.
- Can work with 3rd party trading systems.
- Reconciles Opening Positions and individual trade activity.
- Easy to see when trade activity is missed or is assigned to different account.
- Easy to action and correct errors.

Reconciliation date:

Refresh Reconciliation Data

Opening positions received at

Rmua	Clearing Account Code	Product	Expiry	Bloomberg Code	Clearer Position	STL Cleared Position	STL Actual Position	Difference	Reason	Days to Expiry	Trades Match?	Accept	Ignore	View Trades
	LGBE8315	CAC(LIFFE)	20/05/2016	CFK6	0	1	0	-1	Mismatching Positions	28	NonMatches	Accept	Ignore	View Trades
	LGBE8302	FTSE(IFLL)	17/06/2016	Z M6	1	1	1	0	Matched	56	NonMatches	Ignore	View Trades	
	LGBE8302	ESX(XEURP)	17/06/2016	VGM6	9	9	9	0	Matched	56	NonMatches	Ignore	View Trades	
	LGBE8302	SMI(XEURP)	17/06/2016	SMM6	-1	-1	-1	0	Matched	56	NonMatches	Ignore	View Trades	
	LGBE8302	DAXmini(XEURP)	17/06/2016	DFWAM6	0	0	0	0	Matched	56	NonMatches	Ignore	View Trades	
	LGBE8302	CAC(LIFFE)	20/05/2016	CFK6	-6	-6	-6	0	Matched	28	NonMatches	Ignore	View Trades	
	LGBE8308	DAX(XEURP)	17/06/2016	GXM6	0	0	0	0	Matched	56	Match	View Trades		
	LGBE8308	FTSE(IFLL)	17/06/2016	Z M6	0	0	0	0	Matched	56	Match	View Trades		
	LGBE8308	ESX(XEURP)	17/06/2016	VGM6	0	0	0	0	Matched	56	Match	View Trades		
	LGBE8308	CAC(LIFFE)	20/05/2016	CFK6	0	0	0	0	Matched	28	Match	View Trades		
	LGBE8307	DAX(XEURP)	17/06/2016	GXM6	0	0	0	0	Matched	56	Match	View Trades		
	LGBE8307	FTSE(IFLL)	17/06/2016	Z M6	0	0	0	0	Matched	56	Match	View Trades		
	LGBE8303	DAX(XEURP)	17/06/2016	GXM6	-10	-10	-10	0	Matched	56	Match	View Trades		
	LGBE8303	FTSE(IFLL)	17/06/2016	Z M6	30	30	30	0	Matched	56	Match	View Trades		



StarNET[®] - Settlement Manager

- Global settlement manager automatically marks the book at a specified time across all products available in the database.
- Provides an accurate mark for P&L calculations when holding overnight positions.
- For less liquid products the settlement manager will take the mid price, best bid or offer.
- Easy to manually adjust settlements through an intuitive product picker.

Settlement Prices

Asset Class	Product Category	Product	Exchange
Commodity	Energy	BRN	IFEU
Debt	Softs	WTI	CMEP
Equity	Ags	GO	
Foreign Exchange	Metal	MSC	
Volatility		HO	
		RBOB	
		EUA	

WTI (CMEP)

	2016	2017
January		46.21 ^{16:29}
February	26.89 ^{16:38}	46.44 ^{16:28}
March	31.66 ^{16:29}	
April	40.1 ^{16:29}	
May	41.45 ^{16:29}	
June	43.62 ^{16:29}	
July	44.42 ^{16:29}	
August	44.87 ^{16:29}	
September	45.26 ^{16:29}	
October	45.66 ^{16:25}	
November	45.92 ^{16:25}	
December	46 ^{16:29}	47.77 ^{16:29}

Key: Price Type

- Last Traded
- Mid
- Best Bid
- Best Offer
- Manually Adjusted

Save Prices



StarNET® - Integrated Help Centre

- A web based dedicated support centre.
- Continuously building on a knowledge base so users can help themselves out of common issues instead of getting in touch with support staff.
- Chat support available if the knowledge base is unable to help.
- Support integrated into StarNet so the user doesn't have to redirect to another page.
- Support system powered by zendesk, an enterprise solution provider of Customer Support Services.
 - Easy to track issues
 - Support staff can monitor and engage with customers
 - Easy to build a knowledge base

524	11,299	6,818	-12,872	
0	0	0	1,309	
843	16,300	14,163	-17,527	
0	0	0	157	
5	46.81	-121	46.26	-2,572
14	45.04	1,090	44.37	2,284
23	45.11	-1,986	44.545	1,539
87	4,479	-19,233	4,480.25	-18,058
12	10,327.5	-20,910	10,328	-20,710
25	10,327	-2,184	10,328	-2,144
609	3,049	71,394	3,051.5	61,719
3	0.77865	1,852	0.7791	
44	100.295	-715	100.2975	
6	1.12905	-36	1.128225	
108	6,209	-13,528	6,212	
49	162.04	-9,757	162.105	
130	131	8,118	131.035	

