



QUALITY TRADING SOLUTIONS

max

**BUSINESS ORIENTED TESTING
(BOT)**

Automated Testing for Greater
Efficiency and Certainty

REINER NIX, SYSTEM & BUSINESS ANALYST, MACD:

„In Business Oriented Testing, automated tests are used to develop high-quality software. Automated tests can be performed each time before and after a change is applied and a version is delivered.“

BUSINESS ORIENTED TESTING

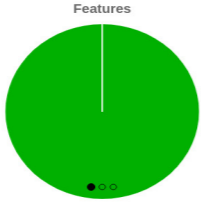
The Business Oriented Testing (BOT) function uses an automated process to ensure that the software performs the required functions correctly and effectively in accordance with your business requirements.

The starting point for the tests is the interface between the customer host system and MAX as well as between MAX and the connected brokers/exchanges. BOT therefore tests the specifications agreed between the customer and MACD. Changes to these interfaces can be identified in a timely manner and potential side-effects minimised.

The execution of the individual phases of the trading process is tested, including order placement, execution, settlement and reporting, as well as adherence to compliance and security requirements. The system feedback on errors and exceptional situations is also tested.

Realistic test scenarios are simulated for this purpose, which are executed automatically, for example when new versions or functions are delivered and before and after every change to the system. As part of regression tests, the test cases are repeated to ensure that modifications in areas of the software that have already been tested do not cause new errors.

Features Statistics
The following graphs show passing and failing statistics for features



Feature	Steps					Total	Scenarios			Duration	Status
	Passed	Failed	Skipped	Pending	Undefined		Passed	Failed	Total		
As a Trader I want that a Funds Redemption order entered via [redacted] host is routed to [redacted] and executed fully with a single trade using CashOrderQuantity - Test-030	7	0	0	0	0	7	1	0	1	4.146	Passed
As a Trader I want that a Funds Redemption order entered via [redacted] host is routed to [redacted] and executed fully with a single trade. Changed currencies, with FX rate [redacted] - Test-031	7	0	0	0	0	7	1	0	1	2.416	Passed
As a Trader I want that a Funds Redemption order entered via [redacted] host is routed to [redacted] and executed fully with a single trade. Single currency, no fees - Test-032	7	0	0	0	0	7	1	0	1	2.110	Passed
As a Trader I want that a Funds Redemption order entered via [redacted] host is routed to [redacted] and executed fully with a single trade (undertile) - Test-033	7	0	0	0	0	7	1	0	1	2.283	Passed
As a Trader I want that a Funds Redemption order entered via [redacted] host is routed to [redacted] and executed fully with a single trade with fees - Test-034	7	0	0	0	0	7	1	0	1	2.793	Passed
As a Trader I want that a Funds Subscription order entered via [redacted] host is routed to [redacted]. On CancelRequest it is changed to manual workflow and while waiting for accept it gets electronically executed fully with a single trade (TODO DEVMAX1-2662) - Test-005	10	0	0	0	0	10	1	0	1	3.866	Passed
As a Trader I want that a Funds Subscription order entered via [redacted] host is routed to [redacted] with disabled flag InterruptSTP and is rejected returning a reason in AdditionalInfo - Test-035	4	0	0	0	0	4	1	0	1	1.241	Passed
As a Trader I want that a Funds Switch order entered via [redacted] host is routed to Finastra using overriding party information "RtdPyId" (TODO DEVMAX1-2287) - Test-079	3	0	0	0	0	3	1	0	1	1.524	Passed
As a Trader I want that a Funds Switch order entered via [redacted] host is routed to Finastra using overriding party information "RtdPyId" and optional "RtdPyScheme" - Test-080	3	0	0	0	0	3	1	0	1	1.520	Passed
As a Trader I want that a Funds Switch order entered via [redacted] host is routed to Finastra with extra party information "RtdPyBIC" - Test-081	3	0	0	0	0	3	1	0	1	1.523	Passed
	475	0	0	0	0	475	62	0	62	2:9.409	62
	100.00%	0.00%	0.00%	0.00%	0.00%		100.00%	0.00%			100.00%

Protocol of test execution with detailed comparison view

THE ADVANTAGES OF BOT

Automated testing is faster and more efficient than manual testing, which greatly reduces the burden on the bank's own resources. In addition, risks are minimised and misunderstandings avoided, as both the expected and actual system behaviour are precisely documented and BOT feature files are readable by technical staff. In addition, the same regression tests can be carried out according to the same standards for every change.

The dynamic BOT system is part of the automated integration pipeline for MAX and implements additional benefits:

- ✓ Compatible with FIX and SWIFT messages
- ✓ Testing of any customised configuration of MAX
- ✓ Overview of the entire test execution (test reports)
- ✓ Documentation of details of failed tests (test reports)
- ✓ Queries of intermediate states through integrated database access
- ✓ Faster detection of differences

Overall, Business Oriented Testing helps to ensure that MAX not only works technically flawlessly, but also fulfils business requirements and supports the smooth running of trading activities.



MAX SERVICES

- ✓ Exchange Direct
- ✓ Broker Connect
- ✓ Customer Connect
- ✓ Data Service
- ✓ Multi Broker Network
- ✓ Fund Trade
- ✓ FX Trading
- ✓ Digital Assets Trading
- ✓ Routing Hub
- ✓ ETD Trade
- ✓ Business Oriented Testing

CHOOSE MORE MAX FUNCTIONALITIES

MAX has a modular structure. We will put together a product tailored to your needs. Of course, every MAX service includes our basic services, such as technical account management, support and personal assistance.

For more information, see our [MAX Trading System brochure](#) and our [website](#).

ABOUT MACD

As specialist for electronic trading, MACD has been successfully developing products and services for financial institutions for more than 25 years.

The company is market leader in trading connectivity in Switzerland. More than 60 banks and exchanges across Europe trust in the comprehensive range of services in software development, project management, consulting, hosting and support.

Around 40 IT engineers, computer scientists and economists are working on innovative solutions at locations in England, Germany and Switzerland.

Since 2004 MACD has been a member of the [FIX Trading Community](#), where George Macdonald, CEO MACD has been involved in various roles, including director.

www.macd.com



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