

QODEX

Qoden Technologies LLC

Cryptocurrency Exchange Engine

Development Roadmap

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Ver.	Widget	Features	Author
1.0	2019-01-10	First version, roadmap till June 2019	Andrei Verbin
1.1*	2019-01-15	Swapped “Exchange Level Risk Controls” with “Conditional Orders”	Andrei Verbin

Release 2019.01

Metrics Collection & Storage

The system is designed to collect and record operation metrics in real-time, including, but not limited to:

- Business metrics (amounts traded in each currency, users online, users registered, etc.)
- Performance (order and trades throughput and latency)
- Response SLA (**Apdex** score)
- Applications health status

The metrics shall be recorded and available for investigations and audits. Next release will contain a *monitoring* feature that will notify level 2 support engineers when something is out of order. Metrics and logs collection will help engineers to investigate issues and quickly resolve typical problems.

Monitoring

A 24/7 automatic 3rd-party monitoring system is to be employed. The system shall be capable of tracking application metrics and alerting operators when those go above or below configurable thresholds. Multiple alert channels such as emails, text messages, and various messengers are to be supported. It should be possible to deploy the monitoring system along with the exchange itself.

With monitoring, level 2 support engineers will be notified when something is out of order. The team will receive a notification immediately.

Universal Rounding Rules

Well-defined and customizable price, amount, and fee rounding rules.

Release 2019.02

Account Freeze

Every operation on an exchange (such as login, issuing a new order, deposit or withdrawal requests) can be accompanied with an email containing a link to immediately freeze the account. Once frozen, an account can only be unblocked via support. This feature allows the owner of an account to immediately block any activity should the account be compromised.

Wallet Processing Improvements

Multiple improvements in cryptocurrency deposit and withdrawal processing, specifically: performance, security and reliability fixes, and migrating to newer software versions.

Stop and Stop-Limit Orders

Rethought support for Stop orders, improved algorithm, and order trigger audit.

Money Transfer Details in Administration UI

Complete technical details about all deposits and withdrawals are available in the admin panel.

Release 2019.03

Order Control

Admin UI to view current/historical orders filtered by accounts, timestamps, and trading instruments. Exchange administrators should have the ability to cancel any (or all) outstanding orders.

Security Audit/Penetration Testing

Run security audits for the Qodex Exchange, fixing all the issues it might uncover.

Post-only Orders

Post-only orders allow traders to only pay the "maker" commission. Such an order is either inserted in the book or rejected if it matches an opposite order.

Conditional Orders

Support conditional orders:

- *One cancels other (OCO) pair.* This allows users to simultaneously protect their position with a stop order and issue a limit order to take profit. As soon as one order is executed or cancelled, the other one is cancelled. This order type imposes less strict money requirements: users need only allocate money only for one of the orders since the orders will never be executed concurrently.
- *IfThen and IfThenOCO orders.* This order type allows users to enter the market with a single order (market or limit) and, as soon as it is filled, immediately protect their capital with a stop loss and possibly a take profit order. Stop and limit "then" orders can be set to form an OCO pair.

Release 2019.04

Stop-Market Orders

Extend support for Stop-Market orders, improved algorithm, order trigger audit (Stop-Limits are done).

Admin panel extensions

- Admin UI extension to view current / historical orders possibly filtered by accounts, timestamps, trading instruments. Exchange administrators should have the ability to cancel any (or all) outstanding order.
- Full technical details about all deposits / withdraws in the admin panel.

Release 2019.05

Market Control

Admin UI to view and control market states: Pause or Halt trading with a single button click, ability to immediately switch off / pause trading for a certain trading instrument or for an exchange as a whole. A 'kill switch' would allow to stop trading activity in case of high volatility, unexpected news, market manipulation etc. The 'kill switch' would permit to either cancel all outstanding orders or to leave them working.

User Freeze

Each operation on an exchange (such as login, issuing a new order, deposit or withdrawal request) can be accompanied with an email containing a link to immediately freeze the account. Once frozen, account can be unblocked only via support. This feature allows the owner of an account to immediately block any activity should the account be compromised.

Post-only Orders

Post-only orders allow traders to only pay the 'maker' commission. Such an order is either inserted in the book or rejected if it matches some opposite order.

Release 2019.06

Security Audit / Penetration Testing

We are going to pass quarterly audit and penetration testing cycle to confirm security level of the solution. This is planned periodical activity.

System Audits extension

The system will collect and keep audits of all the activities in the system, including, but not limited to:

- Logins and logouts
- Any settings and configuration updates
- All trade-related activity
- All backoffice activity such as account details modification
- Deposits and withdrawal

Multi-Account Support

In preparation for margin trading / OTC implementation the system will support multiple accounts across the board - a user might have multiple accounts, the system will allow transferring money between the user's accounts.

Conditional Orders

- One cancels other (OCO) pair. This allows to simultaneously protect your position with a stop order and issue a limit order to take profit. As soon as one order is executed or cancelled, the second one is cancelled. This order imposes less strict money requirement: you can block money only for one of the orders since the orders will never be executed together.

- IfThen and IfThenOCO orders. This order type allows to enter the market with a single order (market or limit) and as soon as it is filled immediately protect yourself with a stop loss and, possibly, a take profit order. Stop and limit 'then' orders can be set to form an OCO pair.

Flexible Fees

Fees structure is to be extended with the following features:

- Tiered fee schedule depending on the amount traded. If a customer trades more, the commissions are reduced.
- Ability to set custom commission rates for an account overriding the global settings.

Release 2019.08

Margin Trading

We will be able to support margin trading on an exchange using the funds borrowed from the other traders. This feature includes:

- Introducing lending pool. Users may wish to lend their money for marginal trading.
- Periodic financing charges. Borrower of the money is charged an interest rate that gets deposited to the lender's account.
- Margin rate:configuration in UI
- Support for margin trading using the borrowed funds on the backend and in the UI
- Risk monitoring, margin calls and account closeouts
- Position keeping, PnL settlement
- Realtime metric calculations: PnL, used and available margin, risk level
- Close orders
- Multi-account and multi-wallet setup: segregated accounts and wallets for margin and exchange trading

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