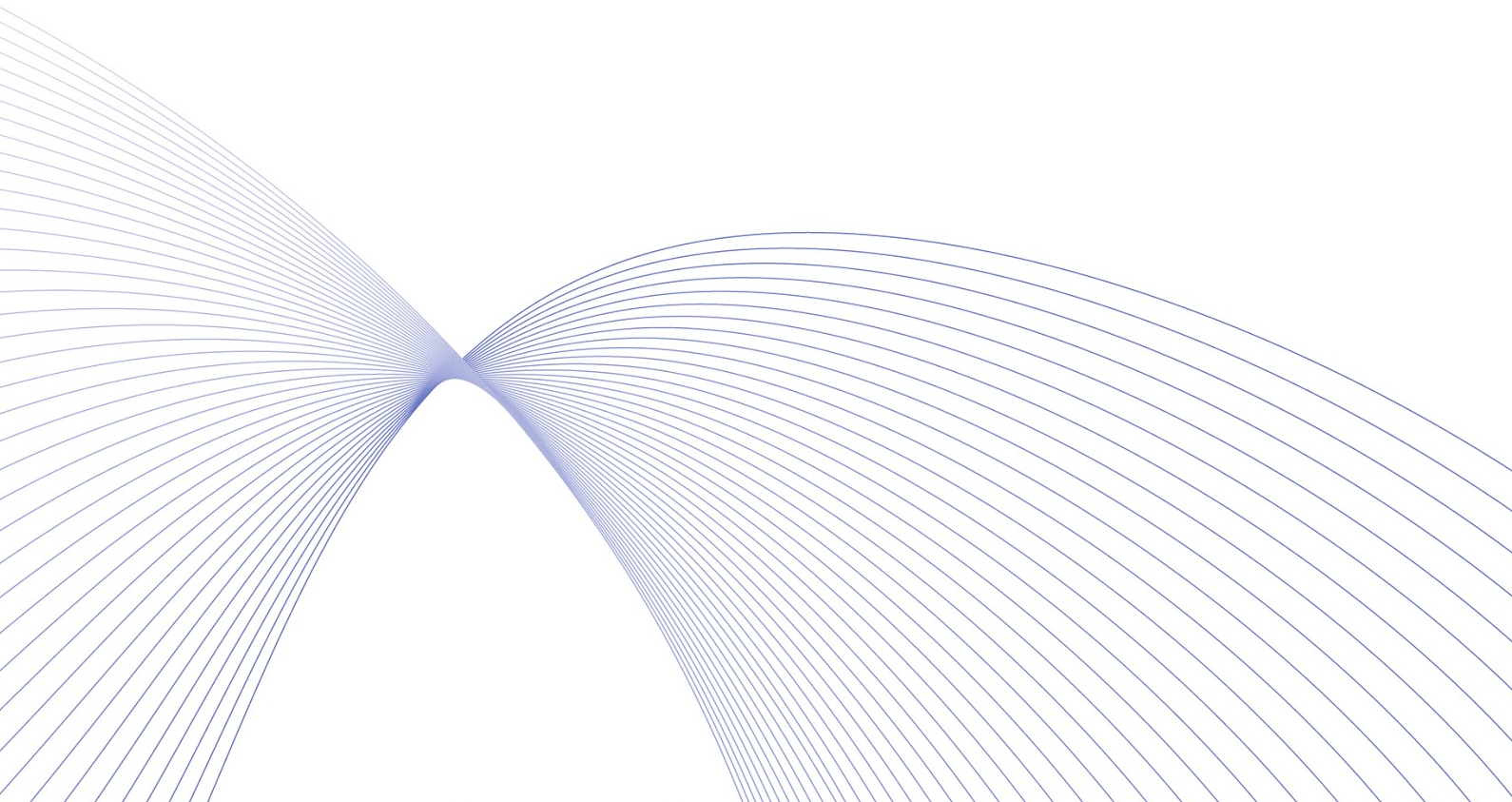


Exchange Security Report

V 2.0 Update



Over the years, digital thieves have stolen millions of dollars' worth of cryptocurrency from various exchanges. The crypto market attracts a huge number of investors and everyone hopes to get the highest returns and it doesn't bother anyone that once your crypto is stolen, you won't get the refund, transactions and assets are not secured in any way, which makes investing in cryptocurrencies really hazardous. The largest crypto exchanges contain vast amounts of digital cash. These facts are really attractive for hackers.

Today more than 200 crypto-exchanges offer their services and this number is constantly growing, therefore, the fall or hacking of the one exchange will not lead to a drop in the market, as it could have been before, furthermore many countries are beginning to introduce regulatory requirements for crypto-exchanges, but still nobody is fully protected from the loss of their crypto assets, therefore, invest in reliable assets, diversify your portfolio and choose good crypto exchanges.

We selected exchanges whose daily trade value exceeds \$100,000; the total number of exchanges on the list is 135.

The report will discuss the following issues in detail:

In comparison with the previous report, most of the parameters have been revised and checks from known attacks, that were not included in the previous one, were added. The report consists of four sections:

- User Security
- Domain & Registrar Security
- Web Security
- DoS Protection

User Security

For verification, accounts were created on each exchange and a test was conducted, on the extent to which the security of the user account was ensured, using the following parameters:

- A check for errors in the content of the exchange code, which could lead to malfunctions in the application.
- The ability to create a weak password.
- Confirmation of actions on the stock exchange through mail.
- Availability of 2FA.

The test results were as follows:

- **Only 22% exchanges met all 4 criteria.**
- 1% exchanges satisfied less than 2 criteria.

Domain & Registrar Security

A check for errors related to the domain and registry. The following parameters were inspected:

- The **Registry lock** is a special flag in the registry (not your registrar) that prevents anyone from making changes to your domain without out-of-band communication with the registry.
- Security-conscious organizations avoid leaking this kind of private information by using role accounts to register their domain names. **Role accounts** protect individuals in your organization from being targeted by attackers.
- We recommend at least a **6-month expiration** window for high profile domains. This is enough leeway to deal with unforeseen complications, such as an employee owning the domain leaving the company (again, this is a good reason to use Role Accounts).
- **DNSSEC** eliminates the threat of DNS cache poisoning by authenticating all DNS queries with cryptographic signatures. Instead of blindly caching DNS records, DNS servers will reject unauthenticated responses.

The test results were as follows:

- **Only 3% exchanges met all 4 criteria.**
- 22% exchanges satisfied less than 2 criteria.

Web Security

The web security was analyzed depending on whether the exchanges were protected from the following errors and attacks, and whether they met certain security standards:

- **HSTS header presence.**
The HTTP Strict-Transport-Security response header (often abbreviated as HSTS) lets a website tell browsers that it should only be accessed using HTTPS, instead of using HTTP.
- **Clickjacking attack protection**
A malicious technique of tricking a web user into clicking on something different from what the user perceives they are clicking on.
- **Drive-by Download attack protection**
Unintended download of computer software from the Internet.
- **Man-in-the-middle (MITM) attack protection**
Attack where the attacker secretly relays and possibly alters the communication between two parties who believe they are directly communicating with each other.
- **POODLE attack protection**
An exploit that takes advantage of the way some browsers deal with encryption.

- **Heartbleed attack protection**

Leads to a leak of memory contents from the server to the client and from the client to the server.

- **Robot vulnerability protection**

Vulnerability that allows RSA decryption and signing operations with the private key of a TLS server to be performed.

- **TLSv1.3 presence**

- **HIPAA, PCI-DSS, NIST guidance compliance.**

The test results were as follows:

- All exchanges were protected from POODLE, Heartbleed and MITM attacks.
- 1% exchanges were not protected from Robot vulnerability.
- On average, each exchange was protected from 6 attacks and errors, the worst was only protected from 4 attacks and the best from 9 out of 10 attacks.
- Only 37% exchanges have HSTS header.
- 60% exchanges protected from Clickjacking attack.
- **For the second time, Kraken is ranked first and was protected from most attacks.**

Denial-of-Service (DoS) attack protection

A cyber-attack in which the perpetrator seeks to make a machine or network resource unavailable to its intended users by temporarily or indefinitely disrupting services of a host connected to the Internet.

The test results were as follows:

- **74% exchanges were protected from DoS attacks.**

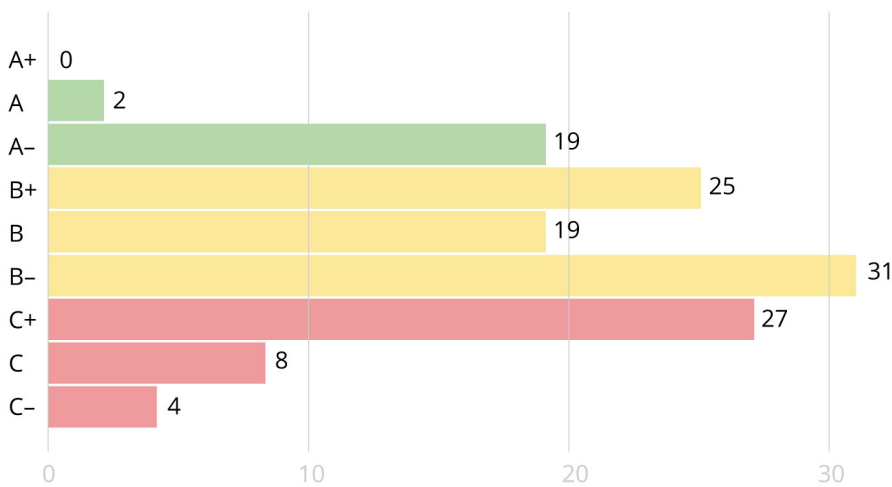
General Exchange Security Rating

The selected exchanges have been analyzed according to the above mentioned categories with the following scoring system:

- User Account Security: Maximum 17 points, 4 parameters analyzed
- Registrar and Domain Security: Maximum 18 points, 4 parameters analyzed
- Web Security: Maximum 57 points, 10 parameters analyzed
- DoS attack protection: 8 points , 1 parameter analyzed

100 points maximum possible score when totalling the above.

Total distribution



Only 16% of exchanges fall into the A category. None of the exchanges have received an A+ rating.

	Name	User Account Security	Registrar and Domain Security	Web Security	DoS attack protection	Score
1	Kraken	4/4	3,5/4	9/10	1/1	A
2	Cobinhood	3/4	4/4	8,5/10	1/1	A
3	Poloniex	4/4	3,5/4	8/10	1/1	A-
4	BitMEX	4/4	3,5/4	8/10	1/1	A-
5	Bitfinex	4/4	3/4	8/10	1/1	A-
6	Bitlish	3/4	2/4	9/10	1/1	A-
7	BitMart	3/4	4/4	8,1/10	1/1	A-
8	BtcTurk	3/4	3/4	8,5/10	1/1	A-
9	Coinbase Pro	4/4	2,5/4	8/10	1/1	A-
10	GOPAX	4/4	2/4	8/10	1/1	A-
11	Livecoin	4/4	2,5/4	8/10	1/1	A-
12	UEX	3/4	3/4	8,25/10	1/1	A-
13	HitBTC	3/4	2,5/4	8,5/10	1/1	A-
14	BTC-Alpha	2/4	2,5/4	8,75/10	1/1	A-
15	LiteBit	3/4	2/4	8,75/10	1/1	A-
16	Exrates	3/4	1/4	8,75/10	1/1	A-
17	Luno	3/4	1,5/4	8/10	1/1	A-
18	Kucoin	3/4	2,5/4	8,25/10	1/1	A-
19	Paribu	2/4	2,5/4	8,5/10	1/1	A-
20	Bitso	2/4	2,5/4	8,5/10	1/1	A-
21	Coinbe	4/4	2,5/4	7,75/10	1/1	A-
22	Liquid	4/4	3/4	7/10	1/1	B+
23	Bibox	2/4	3,5/4	7,75/10	1/1	B+
24	Kriptomat	3/4	0,5/4	8,75/10	1/1	B+
25	Tidebit	2/4	2/4	8,75/10	1/1	B+
26	Crex24	2/4	2/4	8,75/10	1/1	B+
27	Coinmate	4/4	1,5/4	8/10	1/1	B+
28	Independent Reserve	2/4	2/4	8,75/10	1/1	B+
29	Ethfinex	4/4	1,5/4	7,75/10	1/1	B+
30	CEX	3/4	2,5/4	7,75/10	1/1	B+

31	Hotbit	3/4	3/4	7,5/10	1/1	B+
32	Coinut	2/4	2,5/4	8/10	1/1	B+
33	Coindeal	3/4	1,5/4	9/10	0/1	B+
34	Binance	4/4	3/4	7/10	1/1	B+
35	Coinroom	3,5/4	2,5/4	7,25/10	1/1	B+
36	BitMarket	2/4	2/4	8,5/10	1/1	B+
37	BiteBTC	3/4	2,5/4	7,75/10	1/1	B+
38	CPDAX	3/4	1,5/4	9/10	0/1	B+
39	OTCBTC	3/4	2,5/4	8,67/10	0/1	B+
40	BX Thailand	3/4	1/4	8,25/10	1/1	B+
41	OOBTC	3/4	3/4	7/10	1/1	B+
42	xBTCe	3,5/4	2/4	7,5/10	1/1	B+
43	Bitbank	2/4	2,5/4	7,75/10	1/1	B+
44	Iquant	3/4	2/4	8/10	1/1	B+
45	Bittrex	3/4	2,5/4	7/10	1/1	B+
46	Bit2C	2/4	1,5/4	8,1/10	1/1	B+
47	YoBit	3/4	3/4	6,75/10	1/1	B
48	Coinsuper	3,5/4	2,5/4	7,75/10	0/1	B
49	DSX	4/4	2/4	8/10	0/1	B
50	Bitbns	3/4	2,5/4	7,33/10	1/1	B
51	QuadrigaCX	2/4	2,5/4	7,75/10	1/1	B
52	Coinhub	3/4	3/4	6/10	1/1	B
53	CoinsBank	2/4	3,5/4	7,33/10	1/1	B
54	bitFlyer	2/4	1,5/4	9/10	0/1	B
55	CryptoMarket	2,5/4	2,5/4	7/10	1/1	B
56	Cryptonex	2,5/4	4/4	6/10	1/1	B
57	BitBay	3/4	1,5/4	7,33/10	1/1	B
58	BigONE	4/4	2,5/4	6/10	1/1	B
59	OKEx	3/4	2/4	7/10	1/1	B
60	Cryptopia	4/4	1,5/4	6,33/10	1/1	B
61	LATOKEN	3/4	2,5/4	6/10	1/1	B
62	LakeBTC	2/4	2,5/4	7,75/10	0/1	B
63	Indodax	3/4	1,5/4	7/10	1/1	B

64	C-CEX	4/4	2/4	6/10	1/1	B
65	The Rock Trading	3/4	1,5/4	7,75/10	0/1	B
66	Stex	4/4	2,5/4	5,33/10	1/1	B-
67	DragonEX	4/4	2/4	6,75/10	0/1	B-
68	Exmo	3/4	2,5/4	6/10	1/1	B-
69	Fatbtc	3/4	2,5/4	6/10	1/1	B-
70	ABCC	3,5/4	2,5/4	6,75/10	0/1	B-
71	Gate	2,5/4	3/4	6/10	1/1	B-
72	Vebitcoin	3,5/4	2/4	6/10	1/1	B-
73	CoinBene	4/4	2,5/4	5/10	1/1	B-
74	Liqui	2/4	2/4	6/10	1/1	B-
75	Trade By Trade	4/4	1,5/4	5,33/10	1/1	B-
76	HADAX	3/4	2/4	6/10	1/1	B-
77	Sistemkoin	3/4	2,5/4	5,25/10	1/1	B-
78	OEX	3/4	3/4	5/10	1/1	B-
79	CoinEgg	3/4	3/4	5/10	1/1	B-
80	CoinEx	2/4	3/4	5,5/10	1/1	B-
81	Bithesap	3/4	3/4	5/10	1/1	B-
82	FCoin	4/4	2,5/4	5/10	1/1	B-
83	C2CX	3/4	2,5/4	5/10	1/1	B-
84	Gemini	4/4	2,5/4	6/10	0/1	B-
85	BitcoinTrade	4/4	2,5/4	5/10	1/1	B-
86	Trade Satoshi	2,5/4	2,5/4	6/10	1/1	B-
87	BTC Markets	2/4	1,5/4	6/10	1/1	B-
88	LBank	3/4	3/4	6/10	0/1	B-
89	CryptoBridge	2/4	3,5/4	5/10	1/1	B-
90	Simex	2/4	2/4	6,75/10	0/1	B-
91	Coinone	3/4	2,5/4	5/10	1/1	B-
92	TradeOgre	2/4	2,5/4	6/10	1/1	B-
93	Bit-Z	3/4	2,5/4	5/10	1/1	B-
94	Huobi	3/4	2,5/4	4,83/10	1/1	B-
95	Koineks	3/4	2,5/4	5/10	1/1	B-

96	ZB.COM	4/4	3/4	4/10	1/1	C+
97	Upbit	3/4	1,5/4	5/10	1/1	C+
98	TDAX	2,5/4	2,5/4	6/10	0/1	C+
99	Negocie Coins	2/4	2,5/4	5/10	1/1	C+
100	itBit	4/4	2,5/4	4,25/10	1/1	C+
101	BCEX	3/4	2/4	5/10	1/1	C+
102	Neraex	2/4	3/4	5,75/10	0/1	C+
103	BitForex	3,5/4	3/4	4/10	1/1	C+
104	Bitstamp	3,5/4	2,5/4	4,33/10	1/1	C+
105	Tidex	2/4	1,5/4	5/10	1/1	C+
106	RightBTC	4/4	3/4	5/10	0/1	C+
107	CoinExchange	2/4	1,5/4	6,33/10	0/1	C+
108	CoinTiger	3,5/4	2,5/4	4/10	1/1	C+
109	Mercado Bitcoin	3/4	1,5/4	6,33/10	0/1	C+
110	BitcoinToYou	3/4	1,5/4	5/10	1/1	C+
111	Korbit	4/4	2,5/4	4/10	1/1	C+
112	Coinsquare	2,5/4	1,5/4	6/10	0/1	C+
113	DigiFinex	4/4	4/4	4/10	0/1	C+
114	Bithumb	3,5/4	2,5/4	4/10	1/1	C+
115	Kryptono	3/4	2/4	6/10	0/1	C+
116	BTCC	3,5/4	2,5/4	5/10	0/1	C+
117	TOPBTC	2,5/4	3/4	4/10	1/1	C+
118	Fisco	3/4	1,5/4	6/10	0/1	C+
119	MBAex	2/4	3/4	4/10	1/1	C+
120	IDAX	3/4	1,5/4	6/10	0/1	C+
121	Bitsane	3/4	2,5/4	5/10	0/1	C+
122	ACX	2/4	2/4	6/10	0/1	C+
123	Zaif	2/4	1,5/4	6/10	0/1	C
124	Coinfloor	3/4	1,5/4	4,33/10	1/1	C
125	IDCM	3,5/4	3/4	4/10	0/1	C
126	BTCBOX	2,5/4	1,5/4	4/10	1/1	C
127	Bitinka	3/4	2,5/4	4/10	0/1	C
128	Allcoin	2/4	1,5/4	4/10	1/1	C

129	Rfinex	2,5/4	2,5/4	4/10	0/1	C
130	InfinityCoin	3/4	2,5/4	4/10	0/1	C
131	Instant Bitex	1,5/4	3/4	4/10	0/1	C-
132	OKCoin.cn	1,5/4	1,5/4	5/10	0/1	C-
133	DOBI trade	2/4	2/4	4/10	0/1	C-
134	EXX	1/4	2,5/4	4/10	0/1	C-