

51% Attack on ETC Should Trigger Death of PoW Chains

WEEKLY RECAP

- Total market cap. reached \$122bn (a 6.9% decrease), and 7 day trading volume surged 6.4% for top 100 crypto

WEEK AHEAD

- 16 Jan:** ETH Constantinople hard fork
- 16 Jan:** Cboe XBT expiration date for BTC

THOUGHTS OF THE WEEK

Public attention should be redirected from the relatively insignificant upcoming ETH Constantinople update towards the recent 51% attack on the Ethereum Classic (ETC) blockchain. The attack was detected when a series of deep chain reorganizations containing double spend transactions was found.

Consensus algorithms define the governance of blockchain protocols and eliminate the need for third party intervention in managing blockchains. They also determine how block confirmations are carried out on the blockchain, thus ensuring the integrity of data on the blockchain. A blockchain that suffers from a 51% attack lacks sufficient decentralization of miners, and is as such largely worthless.

The price of ETC has remained relatively stable despite the attack. It is likely that ETC is primarily traded by speculators who fail to recognize the significance of a 51% attack, from say a wallet hack. One may also speculate that ETC price is manipulated to create a semblance of stability. This is a possibility that cannot be discounted given the typically centralized ownership of cryptocurrency, and the fact that crypto trading remains largely unregulated.

We believe the 51% attack should significantly dampen any public trust in ETC in the short term. Such an attack can in the long term present a vicious cycle to the crypto ecosystem. 51% attacks dampen trust in public PoW blockchains, leading to the exit of miners and users. The exit from miners leads to lessened competition and costs in mining, making the blockchain further vulnerable to 51% attacks, leading to further price drops.

It is worth noting the hourly cost to launch a 51% attack on ETC is only US\$ 4293, as noted in our Chart of the Week. Meanwhile, Bitcoin (BTC) remains relatively decentralized and is thus unlikely to suffer from 51% attacks. Assuming an electricity cost of US\$ 0.05 per kilowatt, Bitstamp estimates the daily electricity cost of launching 51% attack on BTC at US\$ 5.5mn, to which the massive cost of acquiring mining equipment must be added.

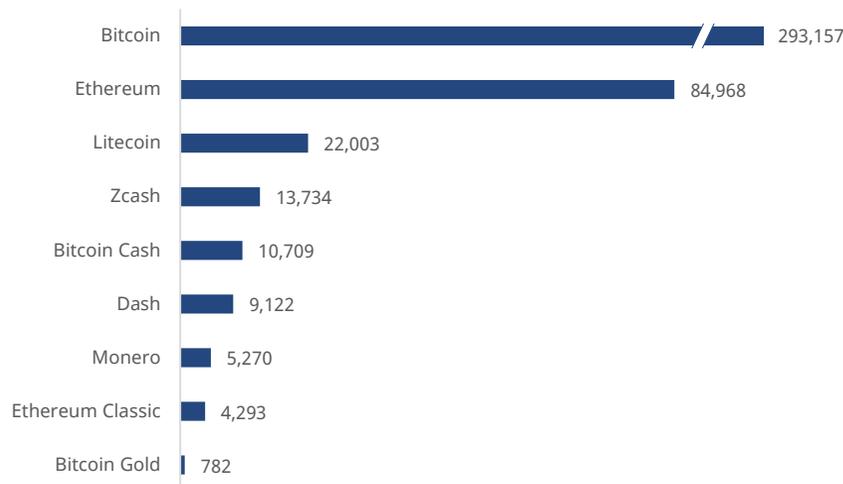
We believe this attack to be significant, as it indicates a further deviation from Satoshi's vision for public chains, and it may signal what is yet to come. We can foresee users will leave PoW chains for PoS public chains, and further 51% attacks within the crypto top 20 could push users towards permissioned chains.

TOP CRYPTO PERFORMANCE SUMMARY

Name	Price	7D%	Vol.	7D%	Mkt Cap.	% Total Mkt
BTC	\$3,663.12	-4.62%	32.12bn	8.99%	64.03bn	52.36%
XRP	\$0.33	-7.25%	3.16bn	11.99%	13.57bn	11.10%
ETH	\$125.69	-18.10%	15.27bn	-14.44%	13.12bn	10.72%
BCH	\$134.68	-15.95%	1.29bn	-9.16%	2.37bn	1.93%
EOS	\$2.43	-9.72%	4.78bn	7.68%	2.20bn	1.80%
XLM	\$0.11	-3.59%	0.65bn	19.01%	2.10bn	1.72%
USDT	\$1.02	0.45%	24.05bn	3.52%	1.97bn	1.61%
BSV	\$85.71	-2.59%	0.59bn	28.26%	1.51bn	1.23%
ADA	\$0.04	-5.93%	0.26bn	57.64%	1.13bn	0.92%
XMR	\$45.19	-9.96%	0.12	31.19%	0.75bn	0.62%

CHART OF THE WEEK

Hourly Cost to Launch 51% Attack on PoW Blockchains (US\$)



TOP CRYPTO NEWS AT A GLANCE

16 Jan ETH Constantinople fork: Core developer Péter Szilágyi reports the successful implementation of the update on the Rinkeby testnet. Note that mining rewards will reduce from 3 to 2 ETH after the hard fork.

Chinese Cyberspace Administration introduces new anti-anonymity regulations for blockchain companies: Starting 15 Feb, the guideline targets firms providing info and technical support to the public using blockchain.

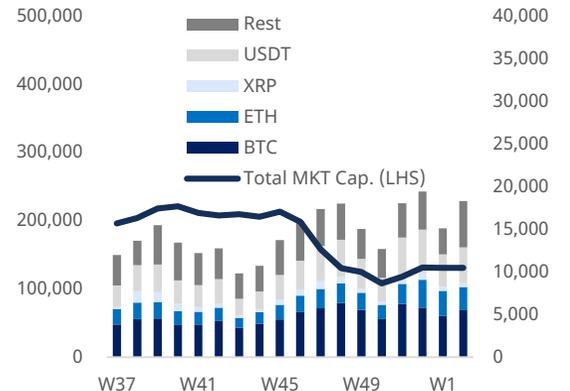
The Thai Ministry of Finance issues digital asset business licenses to four crypto firms: The ministry also rejected two license applications due to failure to comply with requirements for KYC and custody of client assets.

Japan's Financial Services Agency (FSA) denies rumor of BTC ETF approval: FSA is considering categorizing cryptocurrencies as the new legal category "crypto-assets".

NETWORK FUNDAMENTALS

	BTC	ETH
Hashrate	42,014,988 TH/s (-0.9%)	182,362 GH/s (+2.1%)
# Wallet Users	32,235,415 (+0.7%)	52,569,916 (+1.0%)
Top 3 Miners	BTC.com (14%) SlushPool (12%) AntPool (11%)	Ethermine (28%) SparkPool (23%) NanoPool (13%)

MARKET CAP & TRADING VOL. (US\$ MN)



DISCLAIMER

Abbreviations: ABC: Adjustable Blocksize Cap; ADA: Cardano; b/w: between; BCH: Bitcoin ABC; BCH SV: Bitcoin Satoshi Vision; bn: billion; BTC: Bitcoin; CAC: The Cyberspace Administration of China; Cboe: Cboe Global Markets, Inc.; crypto: cryptocurrencies; ETF: Exchange traded funds; ETH: Ethereum; Feb: February; FSA: Financial Services Agency; ICO: Initial Coin Offerings; Jan: January; KYC: Know your customer; Market Cap: Market Capitalization; mn: million; Nov: November; SEC: The U.S. Securities and Exchange Commission; Trading Vol.: Trading Volume; US\$: United States Dollars; USDT: USD Tether; XLM: Stellar Lumens; XMR: Monero; XRP: Ripple

Chart of The Week: Sources: Crypto51.app, Standard Kepler Research

Market Cap & Trading Vol.: Sources: Coinmarketcap, Standard Kepler Research
The horizontal axis represents the week number in 2018. For instance, W37 indicates the thirty seventh week in 2018. W1 indicates the first week in 2019. The primary vertical axis represents total market capitalization; and the secondary vertical axis represents total trading volume.

Network Fundamentals: Sources: Blockchain.com, Blocktrail, Etherchain.org, Etherscan.io, Standard Kepler Research

Thought of The Week: Sources: Bitstamp, Bloomberg, Coinbase, Coindesk, Coinmarketcap, Coinmonks, Cointelegraph, Crypto51.app, Ethereum Classic, Slowmist, Standard Kepler Research

Top Crypto News At a Glance: Sources: Blockcast.it, CCN, Coindesk, Cointelegraph, Standard Kepler Research

Top Crypto Performance Summary: Sources: Coinmarketcap, Standard Kepler Research

Week Ahead: Sources: Cryptocalendar.pro, Standard Kepler Research

Weekly Recap: Sources: Coinmarketcap, Standard Kepler Research

Past performance does not guarantee future results.

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The price of Bitcoin and other cryptocurrencies are highly volatile in nature. It is suggested that clients should perform their own due diligence and consult a fully qualified independent professional financial adviser before making any investments in cryptocurrencies.

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Unless otherwise stated, all data is as of January 13, 2019 or as of most recently available.

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