



A technical introduction to Bitcoin and crypto-currencies

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9am - 12noon Friday 4 July 2014
<http://ict.siiit.tu.ac.th/moodle/>

Sources

- bitcoin.org
- bitcoin.it
- coindesk.com
- blockchain.info
- tradeblock.com
- wikipedia.org
- ...

As of 3 July 2014

Current Bitcoin Exchange Rates



US 646



21,000 Baht

1 BTC = 10^3 mBTC
= 10^6 uBTC
= 10^8 satoshi

Bitcoin Price over Past 24 Hours



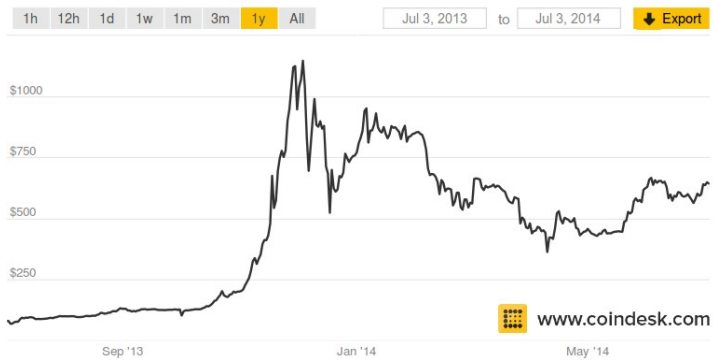
Bitcoin Price over Past Week



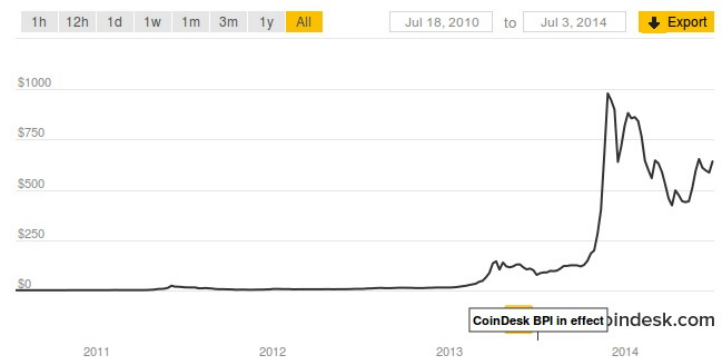
Bitcoin Price over Past Month



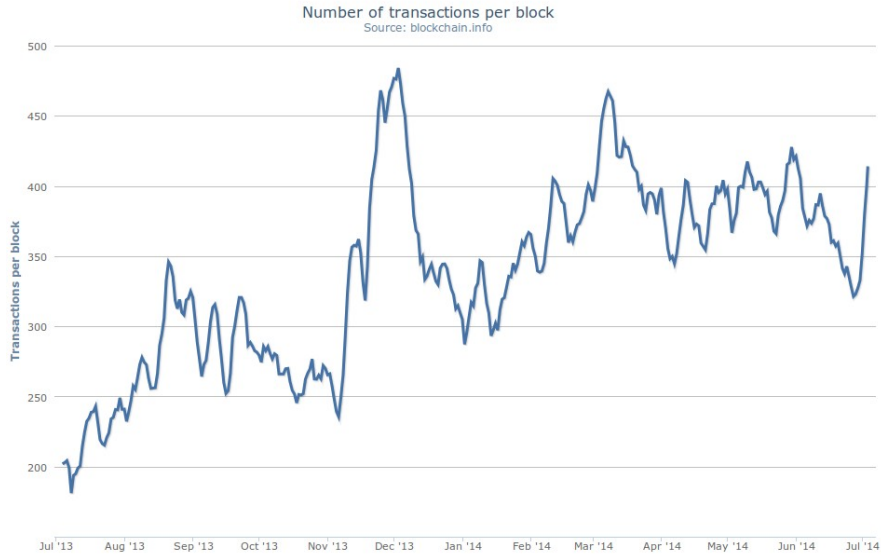
Bitcoin Price over Past Year



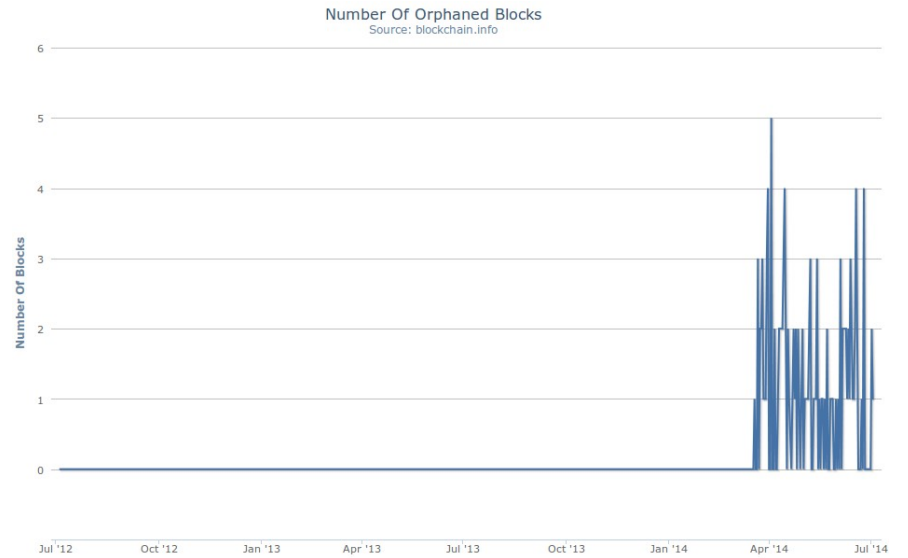
Bitcoin Price over All Time



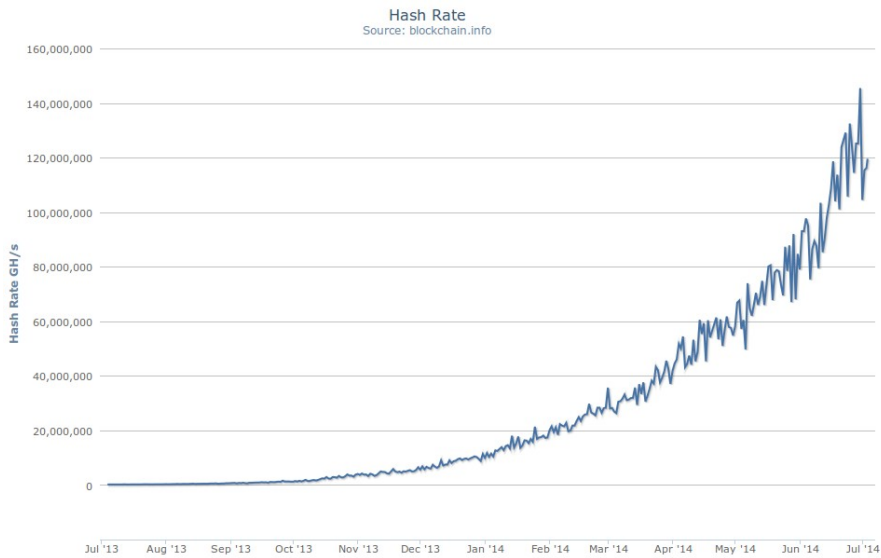
Transactions Per Block



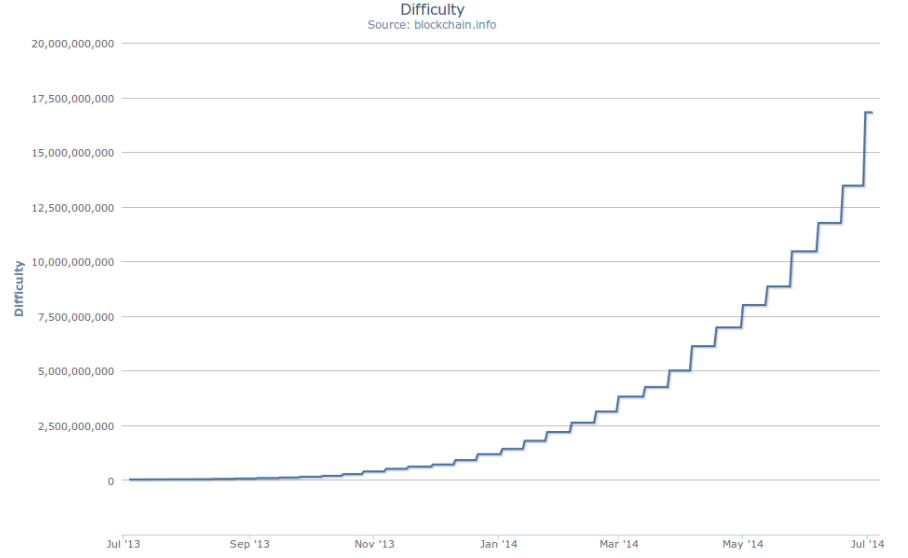
Number of Orphaned Blocks



Hash Rate (GH/s)



Difficulty Factor



Miners Revenue Per Day (USD)






Total

Block Chain Length	308,988
Bitcoins Mined	12,974,675
Reward per Block	25 BTC
Difficulty Factor	~ 16 billion = 2^{34}

Past 24 hours

Blocks added to chain	143
Bitcoins Mined	3,575
Time between Blocks	10.07 min
Transactions	66,110
Transaction Fees	12.75 BTC
Est. Transaction Volume	100,000 BTC
Hash Rate	120,000 TH/s


Mining Hardware

Type	MH/s	MH/s / Watt	MH/s / \$	Other Uses
 CPU	10	0.1	0.1	General purpose
 GPU	100	1	1	General purpose
 FPGA	1000	1	1	Reprogrammable
ASIC	1,000,000	1000	100	Specific to hash algorithm

Solo Mining no longer cost efficient for Bitcoin
Pool Mining: greater chance of winning, reward shared across pool

Alternatives to Bitcoin

SHA-256

-  Namecoin
-  Peercoin
-  Mastercoin

script

-  Litecoin
-  Dogecoin
-  Auroracoin

Other/CPU

-  Darkcoin
-  Primecoin