

# Solutions to Scalability of Blockchain: A Survey

Dr. M. Nithya<sup>1</sup>, Akshay M<sup>2</sup>, Amra Fathima M<sup>3</sup>, Abhinand ET<sup>4</sup>, Ranjana C<sup>5</sup>

Vinayaka Mission's Kirupananda Variyar Engineering College, Salem, Tamil Nadu<sup>1</sup>

Students, Department of Computer Science & Engineering<sup>2,3,4</sup>

Assistant Professor, Department of Computer Science & Engineering<sup>5</sup>

Vedavyasa Institute of Technology, Malappuram, Kerala, India

**Abstract:** *Blockchain-based bound cryptographic types of cash have harsh copious thought and has been wide sent lately. Bitcoin is that the essential use of blockchain, achieves charming triumph and advances additional improvement during this field. In any case, Bitcoin notice execution issues of low turnout and high overseeing delay. elective advanced monetary standards maintained proof of-work conjointly secure the weakness, achieving additional interest concerning the quantifiability of blockchain.. moreover, we will generally drive assessment between extremely astounding ways and show some normal organizations for affirmation the quantifiability drawback of blockchain. Blockchain advancement has obtained exceptional thought in each informative exercise and capital market. Over thinking on countless practical computerized monetary forms and loads of inceptive coin giving stunts have conjointly welcomes deceiver chats on this rising development. This paper shows the event of blockchain structures to present the meaning of limited applications and besides the future worth of blockchain. The perusers can get a once-over of restricted application assessment and secure to appreciate with late headway inside the blockchain. Blockchain development included with its limited, featured with its bound camper resistance maintained a keeping an eye out network, has been unremarkably applied inside the monetary applications, and that is any loosened up to the financial applications.*

**Keywords:** Scalability Block chain

## REFERENCES

- [1]. S. Nakamoto, "Bitcoin: A peer-to-peer electronic cash system," Manubot, Tech. Rep., 2008.
- [2]. G. Wood, "Ethereum: A secure decentralised generalised transaction ledger," Ethereum Project Yellow Paper, vol. 151, pp. 1–32, Apr. 2014.
- [3]. C. Cachin, "Architecture of the hyperledger blockchain fabric," in Proc. Workshop Distrib. Cryptocurrencies Consensus Ledgers, vol. 310, 2016.
- [4]. H. Wang, Z. Zheng, S. Xie, H. N. Dai, and X. Chen, "Blockchain challenges and opportunities: A survey," Int. J. Web Grid Services, vol. 14, no. 4, p. 352, 2018.
- [5]. P. Zheng, Z. Zheng, X. Luo, X. Chen, and X. Liu, "A detailed and real-time performance monitoring framework for blockchain systems," in Proc. 40th Int. Conf. Softw. Eng. Softw. Eng. Pract.-ICSE-SEIP, 2018, pp. 134–143.
- [6]. The Scalability Trilemma in Blockchain. Accessed: Sep. 1, 2019. [Online]. Available: [https://medium.com/@aakash\\_13214/the-scalability-trilemma-in-blockchain-75fb57f646df](https://medium.com/@aakash_13214/the-scalability-trilemma-in-blockchain-75fb57f646df)
- [7]. S. Gilbert and N. Lynch, "Brewer's conjecture and the feasibility of consistent, available, partition-tolerant web services," SIGACT News, vol. 33, no. 2, p. 51, Jun. 2002.
- [8]. X. Li, P. Jiang, T. Chen, X. Luo, and Q. Wen, "A survey on the security of blockchain systems," Future Gener. Comput. Syst., to be published.
- [9]. Bitcoin Cash. Accessed: Sep. 1, 2019. [Online]. Available: <https://www.bitcoincash.org/>
- [10]. Bip152. Accessed: Sep. 1, 2019. [Online]. Available: <https://github.com/bitcoin/bips/blob/master/bip-0152.mediawiki>

- [11]. L. Luu, V. Narayanan, C. Zheng, K. Baweja, S. Gilbert, and P. Saxena, “A secure sharding protocol for open blockchains,” in Proc. ACM SIGSAC Conf. Comput. Commun. Secur.-CCS, 2016, pp. 17–30.
- [12]. E. Kokoris-Kogias, P. Jovanovic, L. Gasser, N. Gailly, E. Syta, and B. Ford, “OmniLedger: A secure, scale-out, decentralized ledger via sharding,” in Proc. IEEE Symp. Secur. Privacy (SP), May 2018, pp. 583–598.
- [13]. M. Zamani, M. Movahedi, and M. Raykova, “RapidChain: Scaling blockchain via full sharding,” in Proc. ACM SIGSAC Conf. Comput. Commun. Secur., Jan. 2018, pp. 931–948.
- [14]. J. Wang and H. Wang, “Monoxide: Scale out blockchains with asyn-chronous consensus zones,” in Proc. 16th USENIX Symp. Netw. Syst. Design Implement. (NSDI), 2019, pp. 95–112.
- [15]. I. Eyal, A. E. Gencer, E. G. Sirer, and R. Van Renesse, “Bitcoin-NG: A scalable blockchain protocol,” in Proc. 13th USENIX Symp. Netw. Syst. Design Implement. (NSDI), 2016, pp. 45–59