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Fuzzy Security for Blockchain Technology

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ABSTRACT

Blockchain Technology is decentralized and secured. The Blockchain is transaction is Blocks of transactions. Blockchain is transaction processes which avoid third party intervention. Blockchain data sources are encrypted and code is send to second party. The code is intermediate node and is used to for transaction. In This presentation, fuzzy security code is studied for Blockchain, Steiner tree is studied as security node for Blockchain. Fuzzy security code is highly secured and irreversible.

1. INTRODUCTION

Blockchain Technology [7] is Distributed Technology. It reduces third party intervention. It is decentralized, transparent, autonomy, immutable, irreversible and reduces the size of Block.

Blockchain store the information in blocks and forming as Chain. Block is linked to previous block and forming as Blockchain. Blockchain is Distributed Ledger that store the database and Distributed.

Steiner node [1] is intermediate node of the graph. Blockchain need intermediate node called security code. Blockchain Database communicate data sources with security code and it is irreversible.

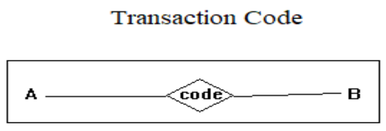
References

1. Chlebíková, Janka "The Steiner tree problem on graphs: Inapproximability results". Theoretical Computer Science. Vol.406, no.3:, 2008,pp.207–214.
2. Nazanin Moosavi, etc, Blockchain Technology, Structure, and Applications: A Survey, International Conference on Industry Sciences and Computer Science Innovation,Procedia Computer Science,vol. 237, 2024,pp. 645–658.
3. Robert Englemore, Tony Morgan. . Blackboard Systems, Addison-Wesley,1988.

2. METHODS

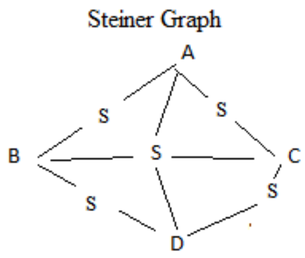
Blockchain is direct transactions from source to destination with intermediate security code.

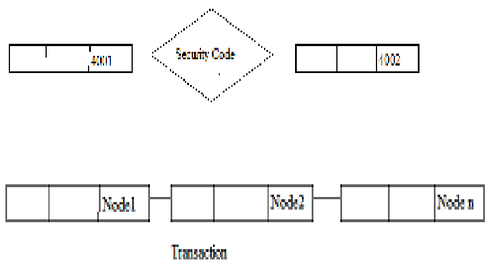
Steiner node is introducing intermediate node between two points of the line.



Steiner graph is graph by introducing intermediate nodes.

Steiner tree is tree by introducing intermediate node in a tree.

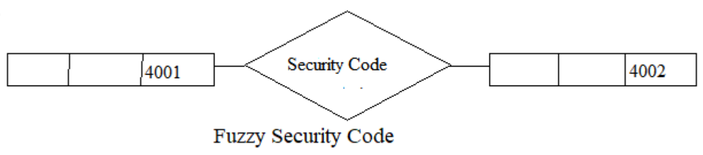


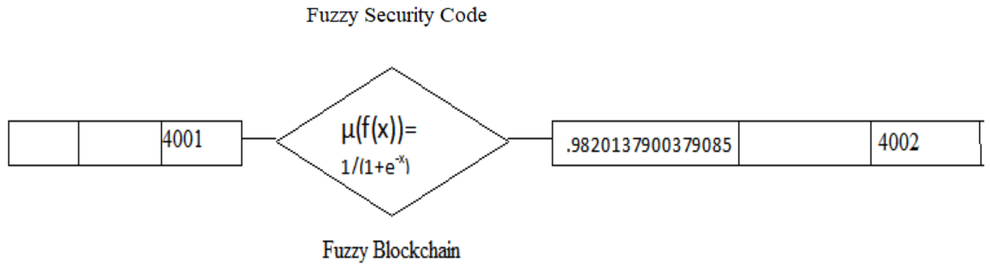


$H=\mu_A(h(x))\rightarrow[0,1]$, $x\in R$

Fuzzy security ode

$\mu(h(x))=1/$





3. RESULTS

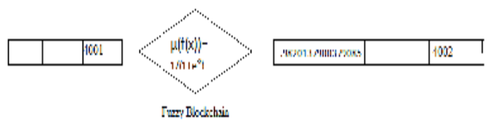
The Transaction Algorithm with Blockchain Fuzzy Security Code (BFSC) Code: is given by

Read BFSC

Match BFSC

Update Transaction

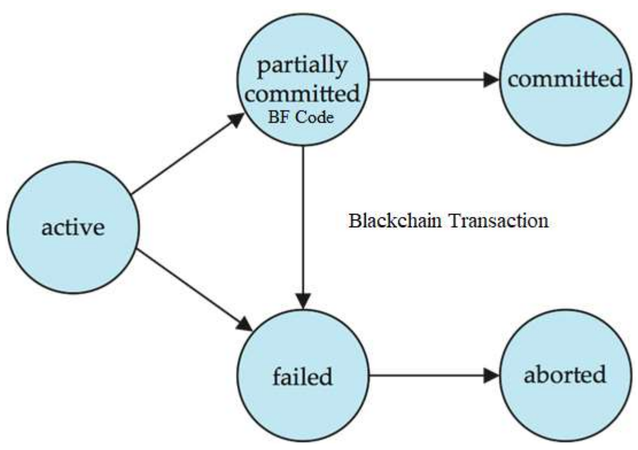
Commit



Blockchain has two main issues to deal security

Hardware failures

Blockchain Fuzzy Security Code Mismatch



4. CONCLUSIONS

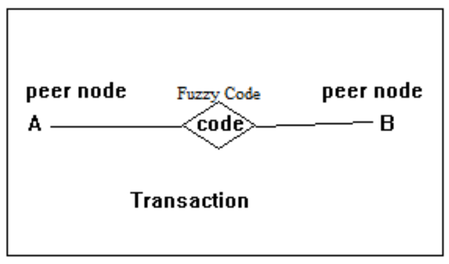
Blockchain Technology is Distributed and Circular Chain. It reduces third party intervention. It is decentralized, transparent, autonomy, immutable, irreversible and reduces the size of Block. In This presentation, fuzzy security code is proposed for Blockchain, Fuzzy security code is computed with hash value and is not possible to decrypt. Blackboard Technology is studied for fast transaction. Steiner tree are discussed to design Blockchain Technology. It is not possible to hacker hack Blockchain with fuzzy security code.

Fuzzy Security code is highly secure because it is Irreversible. Blockchain will avoid third party intervention and secured by introducing intermediate Steiner node as fuzzy security code.

Mostly Blockchain technology is used to avoid third party intervention.

Ac.No	Hash value	Fuzzy Blockchain Security Code μ(h(x))	Ac.Bal
8307102	2	0.8807970779778823	10000
8307103	3	0.9525741268224334	15000
8307104	4	0.9820137900379085	20000
8307105	5	0.9933071490757153	15000
8037106	6	0.9975273768433653	18000

Blockchain Fuzzy Security Code



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