Un-censorable, DDoS-proof, Fault-tolerant, Decentralised & Open Domain Name System

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***Abstract*—Domain Name System is currently monopolised by the Internet Corporation of Assigned Names and Numbers (ICANN). In recent times, DNS system has been attacked several times and left internet vulnerable. A lot of websites 'insert sources' suffered by such attacks and it got everyone thinking of finding a better solution for domain name resolution.**

***Index Terms*—Domain Name System, Blockchain, Ethereum, IPFS, Solidity, Smart Contracts, DNS proxy server, Domain Name Registrar, Web3**

I. Introduction

II. Smart Contracts

Solidity is a higher level programming language for Ethereum Virtual Machine that allows deployment and execution of smart contracts without requiring any centralised or trusted parties.

III. IPFS

IV. Compatibility with existing DNS

V. Ethereum

VI. Record Structure

DNS
unlimited free reads paid writes

VII. Example

hubble, nebulis

VIII. Architecture

The architecture of Open DNS is built atop Ethereum Blockchain. Ethereum Blockchain provides #insert features of eth-bc and is replicated in 1000s of computers worldwide. Smart contracts, they run in ethereum virtual machine and using Web3, a normal computer program can interact with ethereum eco-system. For brevity, demonstrated smart contract supports fewer record types such as A, NS, CNAME, SOA, PTR, MX, TXT, AAAA, SRV, NAPTR, OPT, SPF and TLSA.

IX. Errors

Internal compiler error: Stack too deep, try removing local variables.
VM Exception: out of gas

X. Conclusion

XI. Making DDoS proof/caching/tendermint

XII. Problem with domain expiration

References

[1] H. Kopka and P. W. Daly, *A Guide to LaTeX*, 3rd ed. Harlow, England: Addison-Wesley, 1999.