

Distributed Immunisation Information System

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April 3, 2021

Abstract

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1 Chaincode

Selected Go, as there are apparent benefits outlined in [1]

2 Framework selection

An important decision, which dictates the system requirements. Hyperledger fabric is ... Using their MSPs is different to things like this TrustID: A New Approach to Fabric User Identity Management how? Why are we not customising and instead going with fabric's default implementation, maybe because it fits our use case better? It makes sense as the organisations using the system are governed already by their health body, for UK it's MAYBE Department of Health & Social Care - look this up! See if there's a general term for lead health body or whatever

Fabric has all the identity functionality built in, Indy + Aries would be more flexible but does that matter with an permissioned network? Fabric MSPs etc vs DIDs? Or does it use DIDs? w3 DIDs

3 benefits

[Covid-19: Vaccines and vaccine passports being sold on darknet] - this system would negate these spoofed vaccination records as all data will be on the system and if not it's illegitimate.

4 Essential considerations

FHIR - standards for sharing healthcare information

5 Immunisation verification app

smarthealth.cards by Vaccination Credential Initiative (VCI) - smart card framework

6 BaaS comparison

Comparing Blockchain-as-a-Service platforms, to identify which tool is most suitable for deploying the proposed Distributed Immunisation Information

System built with Hyperledger Fabric.

Beginning, I was aware of two options: Azure and IBM.

Reading [2].

[Performance Analytical Comparison of Blockchain-as-a-Service (BaaS) Platforms] says "Blockchain highly suffers from scalability problem due to its capped transaction latency as well as consensus approach"

Azure have FHIR API, is it the only one? looks like maybe Amazon also
Azure FHIR API

References

- [1] L. Foschini, A. Gavagna, G. Martuscelli, and R. Montanari, "Hyperledger fabric blockchain: Chaincode performance analysis," in *ICC 2020 - 2020 IEEE International Conference on Communications (ICC)*, ISSN: 1938-1883, Jun. 2020, pp. 1–6. DOI: 10.1109/ICC40277.2020.9149080.
- [2] M. M. H. Onik and M. H. Miraz, "Performance analytical comparison of blockchain-as-a-service (BaaS) platforms," in *Emerging Technologies in Computing*, M. H. Miraz, P. S. Excell, A. Ware, S. Soomro, and M. Ali, Eds., ser. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, Cham: Springer International Publishing, 2019, pp. 3–18, ISBN: 978-3-030-23943-5. DOI: 10.1007/978-3-030-23943-5_1.