RESEARCH DATA ALLIANCE

Blockchain Applications in Health WG @P14

'Decision tree' for blockchain solutions

(Progressing document after Philadelphia P13)

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Helsinki, 25th October 2019, 9:00-10:30

research data sharing without barriers

rd-alliance.org

Decision tree

Where are we?

- In Philadelphia – 13th Plenary – we discussed:
  - Some key health data challenges
  - Blockchain – technical features and areas of interest in the health domain
  - Existing solutions
  - Decision tree – basic example
- The latter point was of interest for the audience, and the group decided to focus on this as one potential operational outcome of the WG
- Here we present an extended version of the decision tree, together with a strategic framework (document)

Decision tree/questionnaire (Philadelphia version)

Are you working with digital assets and can you create a permanent, authoritative record of the digital asset?
Yes (EHRs)

Is there value in an immutable record? Or is an immutable record a requirement?
Yes, immutability is surely a value in specific use cases (access control and auditing, e.g. claims management, drugs authenticity).

Do you require high performance rapid transactions?
Not necessarily – depend on use cases

Do you intend to store large amounts of non-transactional data as part of your solution?
No, large volumes of data from images and genomics will continue to reside on dedicated databases**.**

Do you want/need to rely on a trusted party?
Yes, given roles and liability as set forth in relevant regulations (see GDPR)

Are you managing a contractual relationship or value exchange?
Yes. Here blockchain could help in reducing unnecessary friction and cost in the supply chain or during payments.

Are there multiple stakeholders involved in the process/value chain?
Yes (hospitals, GPs, doctors, nurses, payers, health institutions, patients)

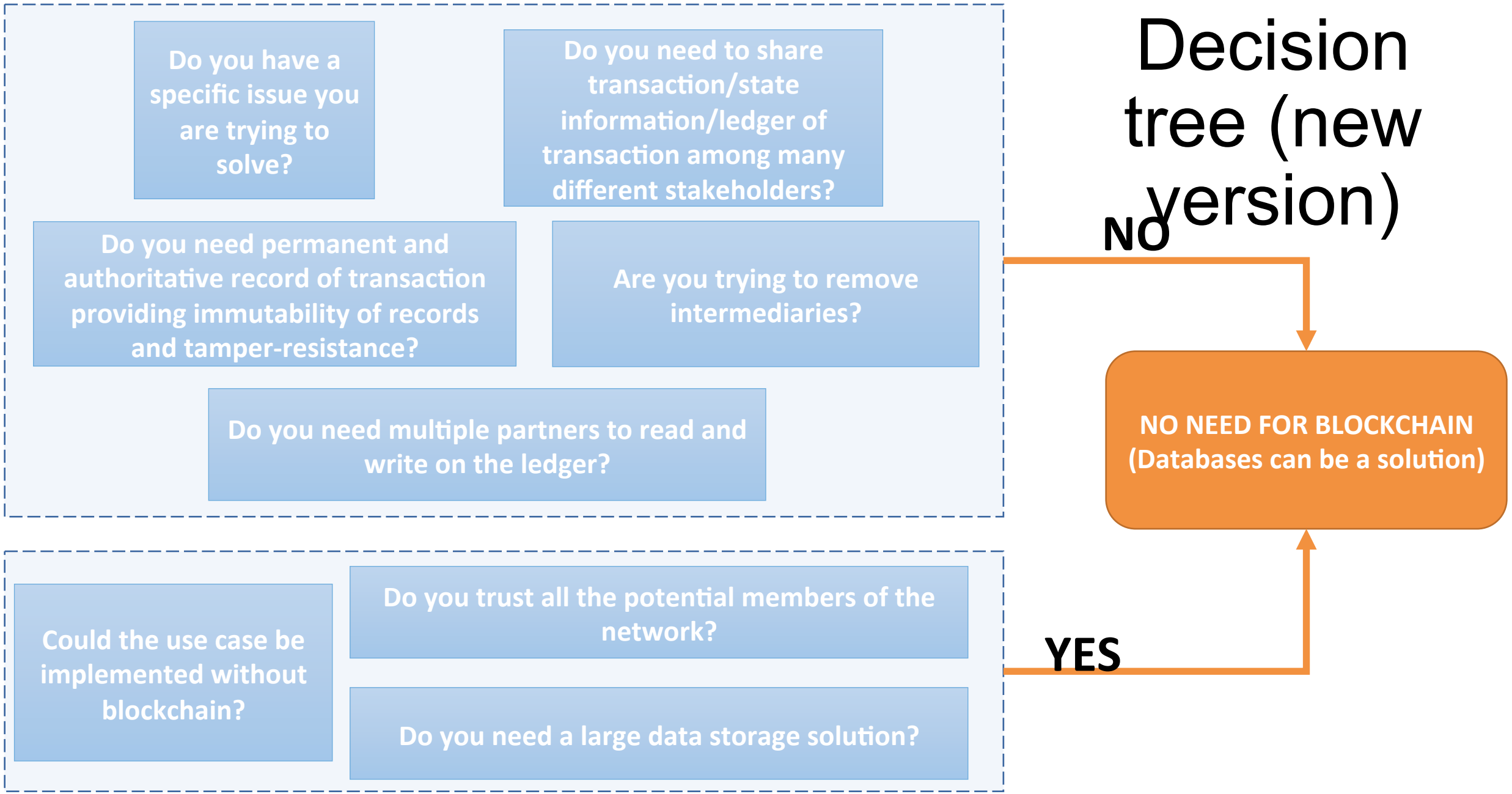
Do you require shared write access?
Yes, as many (if not all) members of the network will need to input into the ledger

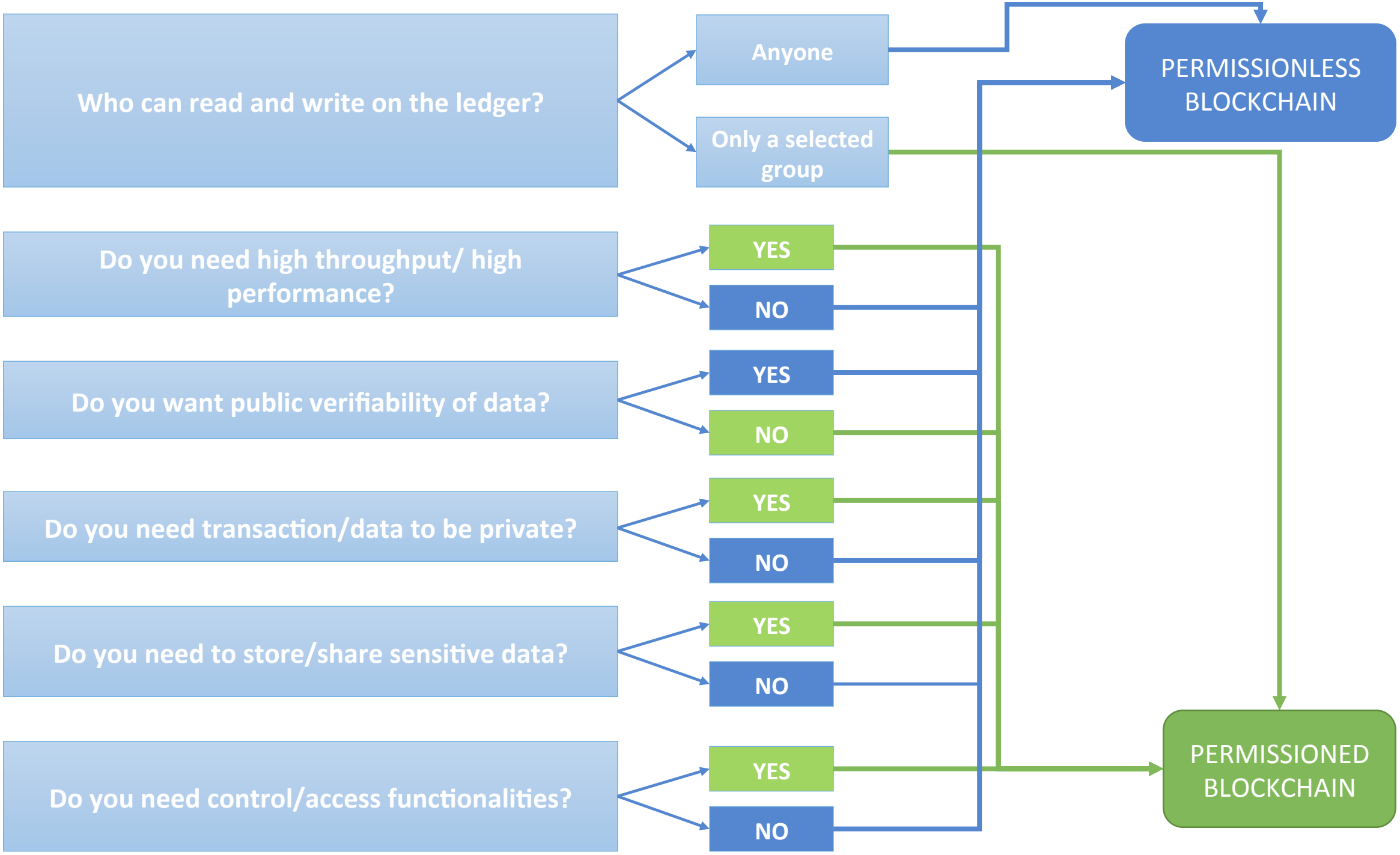
Do contributors know and trust each other? Are relevant interests aligned?
No, there are many mis-aligned incentives between healthcare professionals, hospitals, payors, patients, families and regulators,

Do you need to be able to control functionality? (e.g., node distribution, permissioning, engagement rules, etc.)
Yes, to express/enforce policies

Should transactions be public?
No, in most cases.

Decision tree (new version)




Who can read and write on the ledger?
Anyone
Only a selected group
PERMISSIONLESS BLOCKCHAIN
Do you need high throughput/ high performance?
YES
NO
Do you want public verifiability of data?
YES
NO
Do you need transaction/data to be private?
YES
NO
Do you need to store/share sensitive data?
YES
NO
Do you need control/access functionalities?
YES
NO
PERMISSIONED BLOCKCHAIN