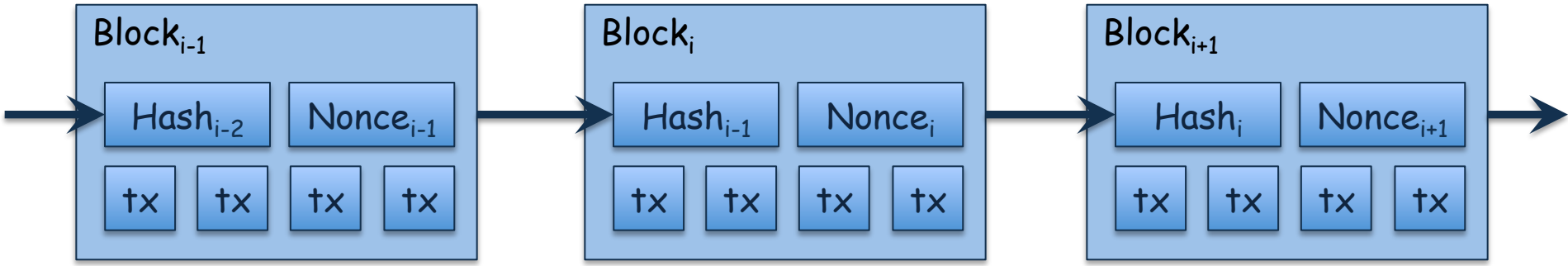
DPOS

Murat Osmanoglu

Bitcoin


Block$_{i-1}$
Hash$_{i-2}$
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tx
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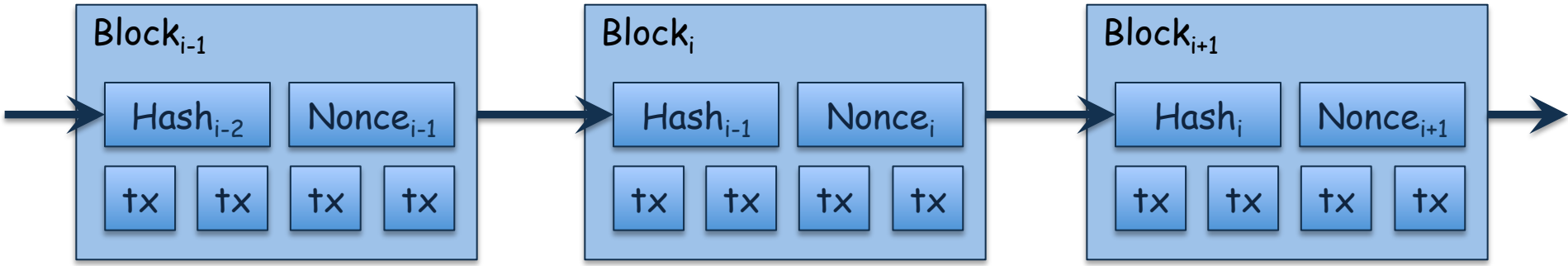
Block$_{i-1}$
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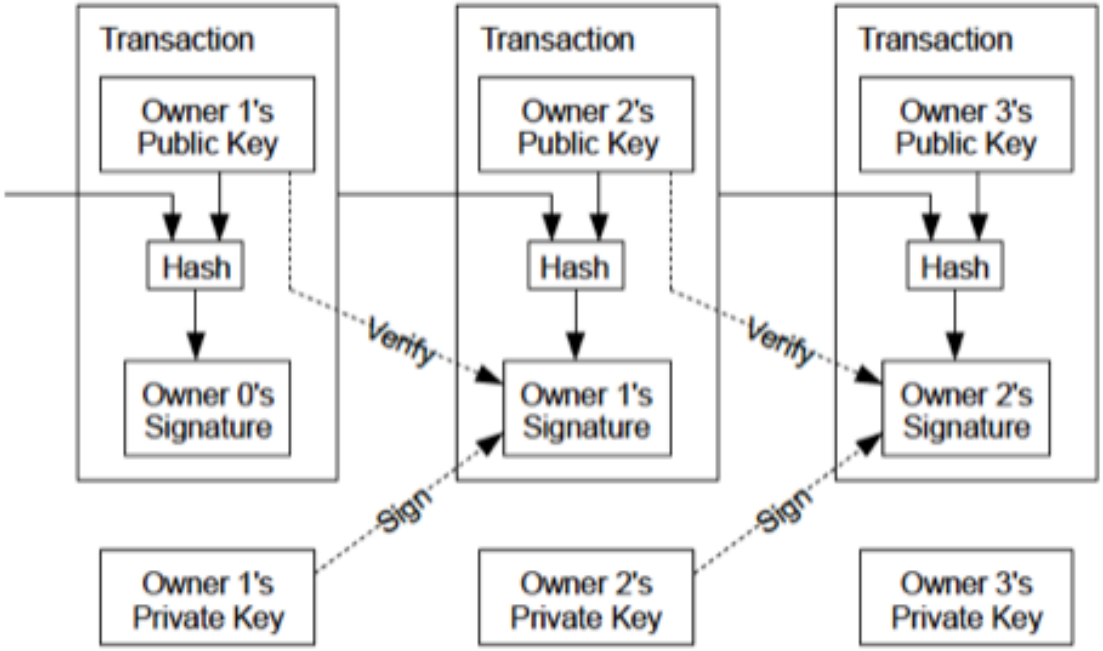
Transaction
Owner 1's Public Key
Hash
Owner 0's Signature
Transaction
Owner 2's Public Key
Hash
Owner 1's Signature
Transaction
Owner 3's Public Key
Hash
Owner 2's Signature
Verify
Verify
Sign
Sign
Owner 1's Private Key
Owner 2's Private Key
Owner 3's Private Key

Do you really need a Blockchain?

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Do you need a shared, consistent data store?

BC provides a historically consistent data store. If you don't need that, use email or spreadsheets

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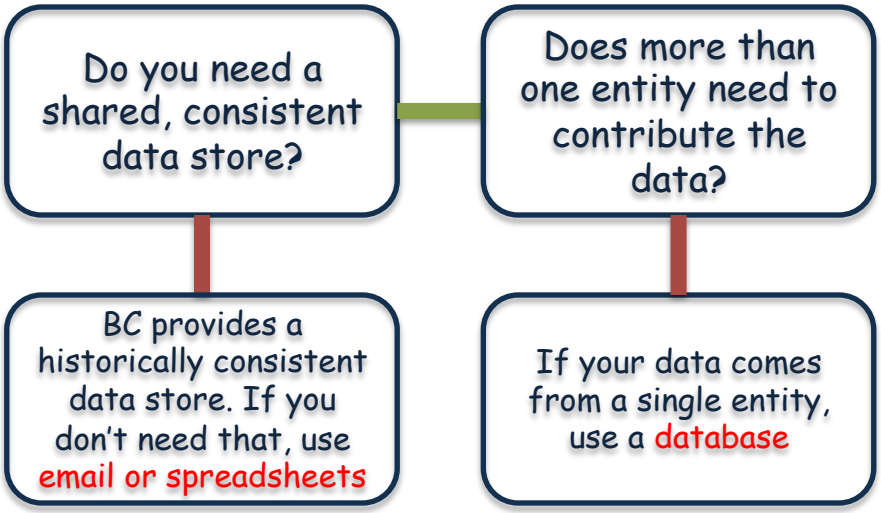

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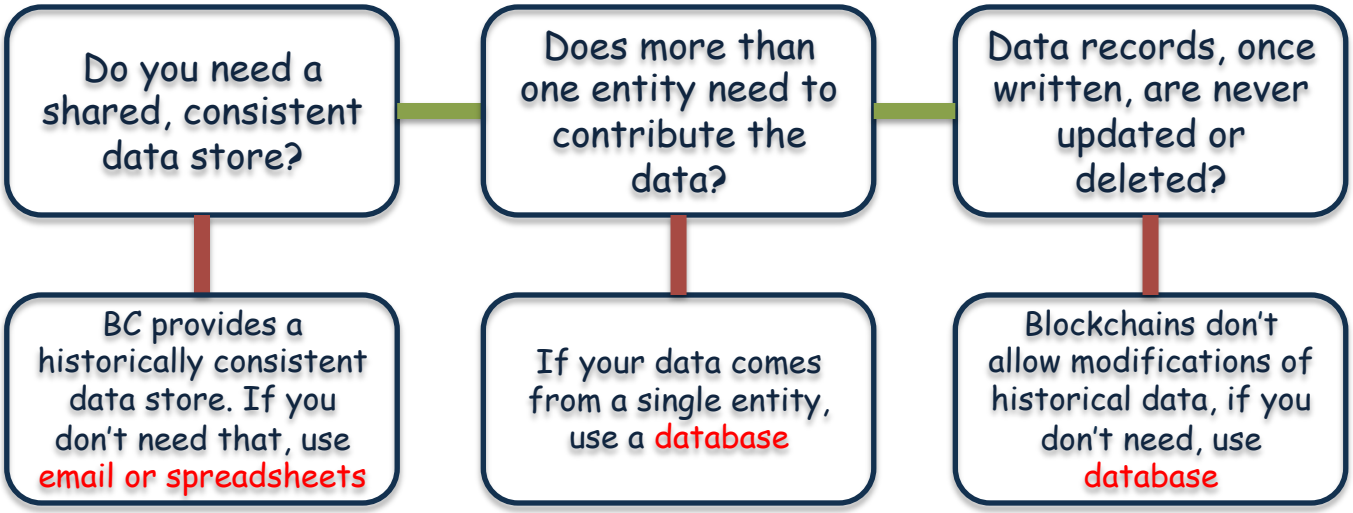

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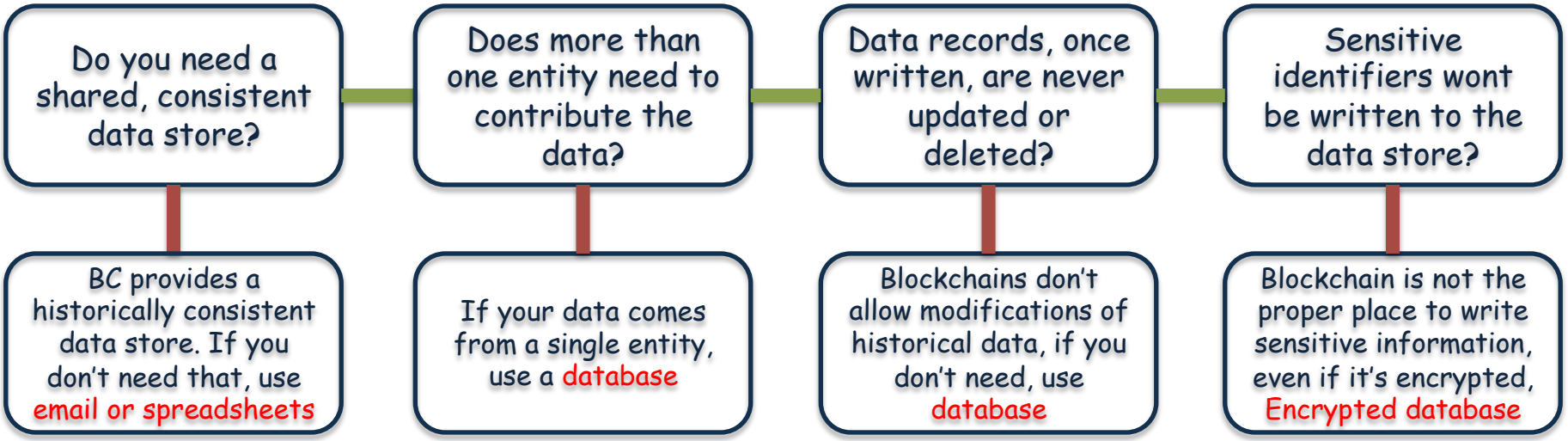

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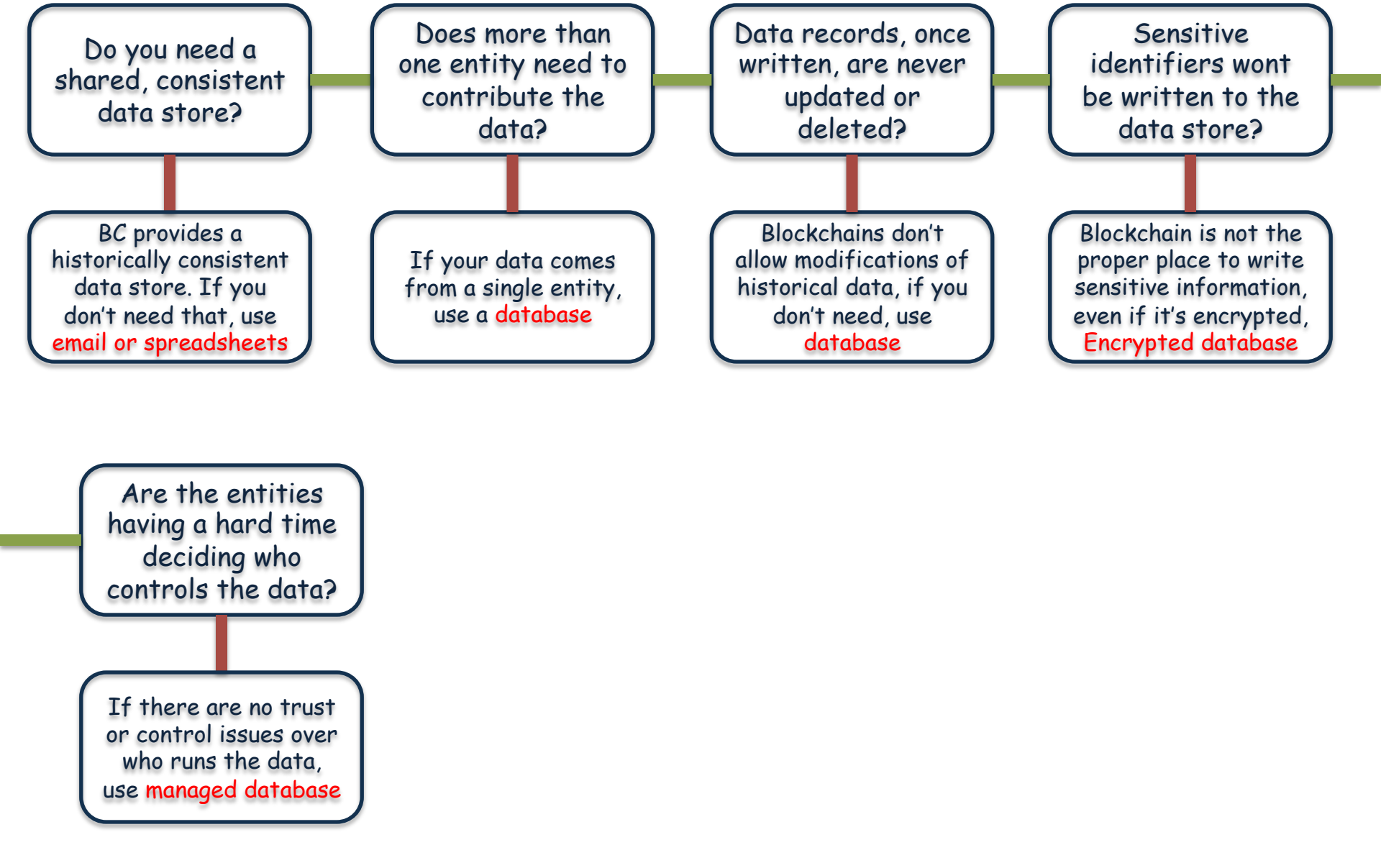

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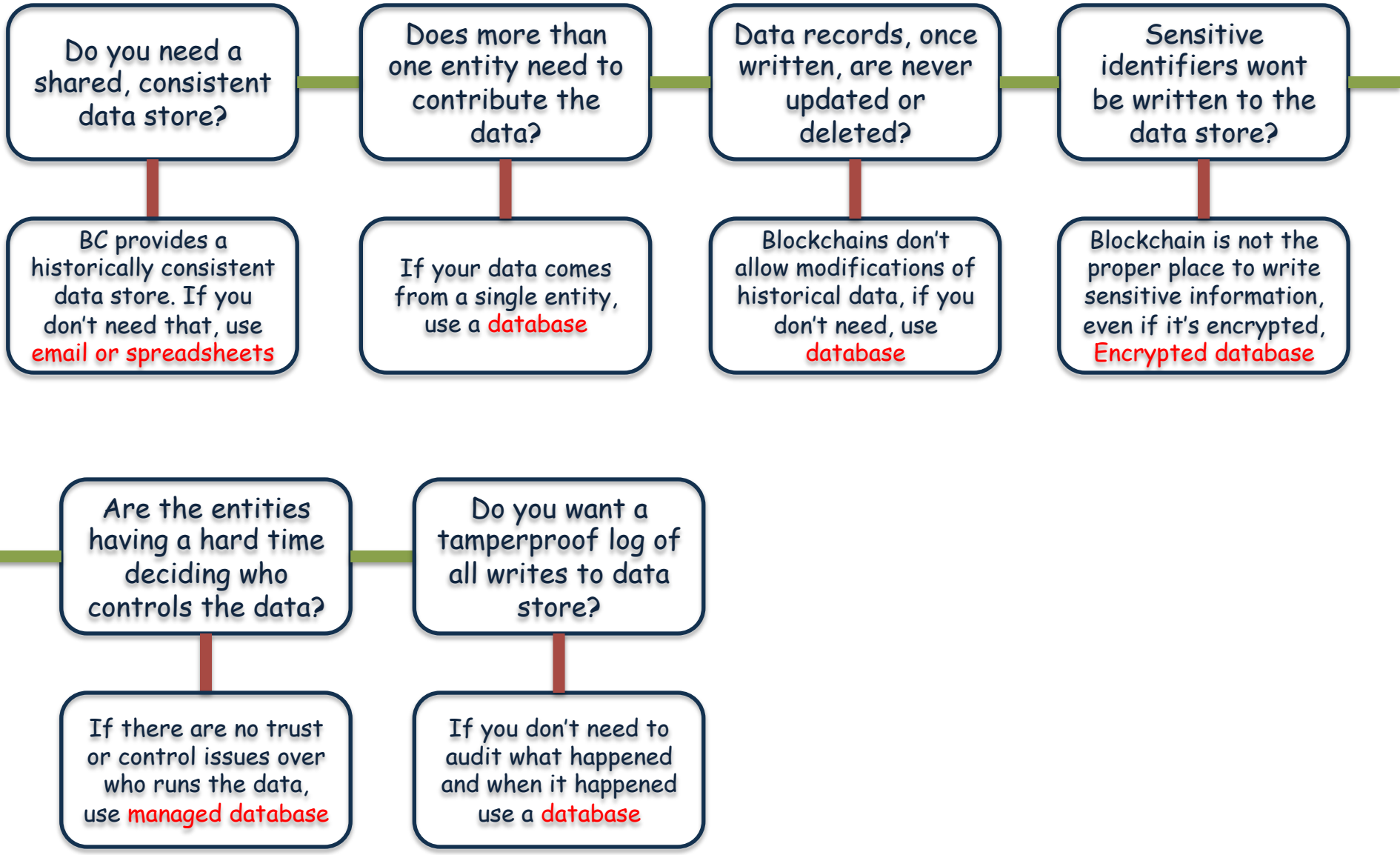

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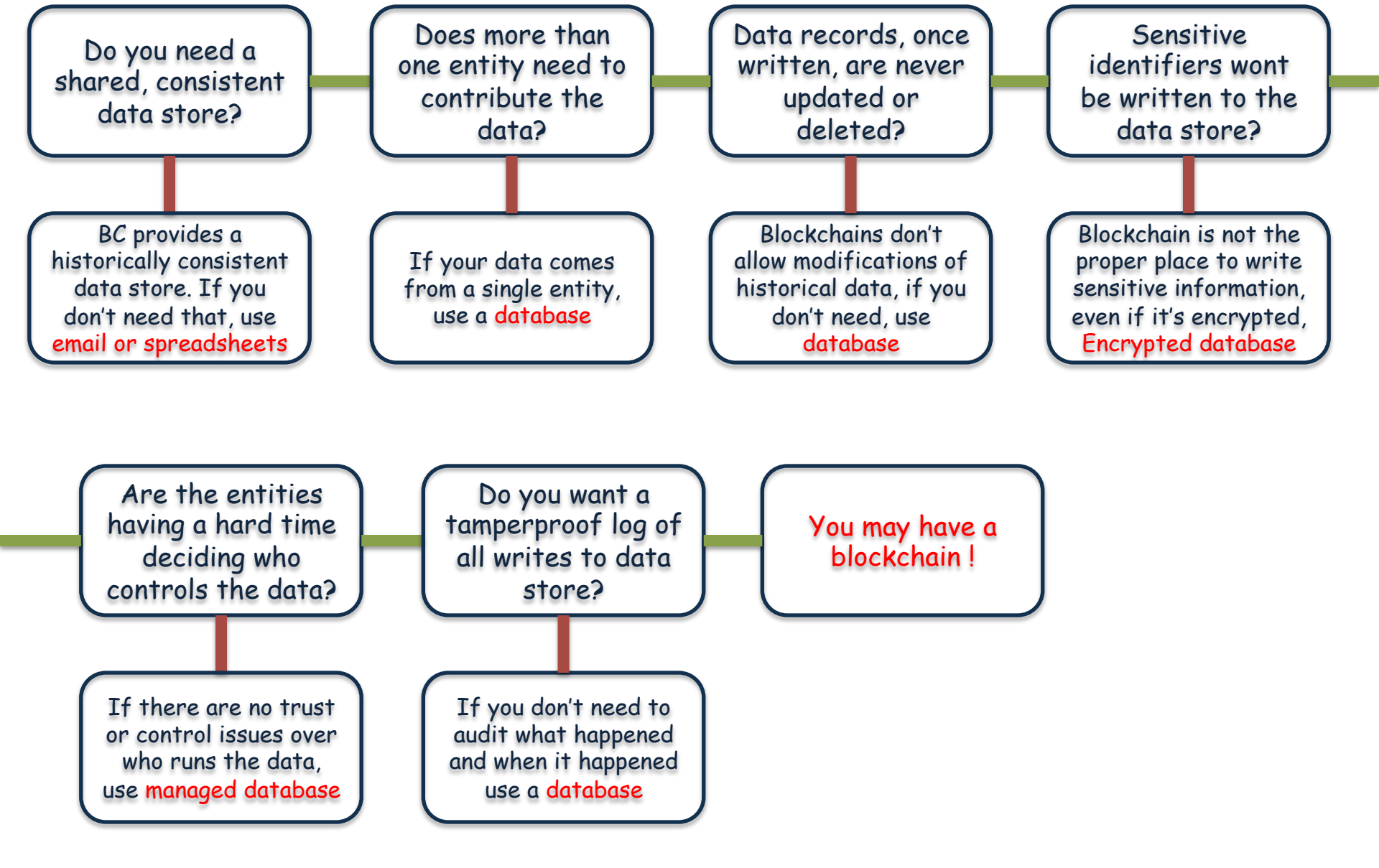

Democracy

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Forms of Government

- Autocracy – rule of the one
- Oligarchy – rule of the few
- Democracy – rule of the majority

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- Autocracy – rule of the one

autos(self) + kratos(to rule)

- Oligarchy – rule of the few

oligos(few) + arkho(to rule)

- Democracy – rule of the majority

demos(people) + kratos(to rule)

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  direct democracy and representative democracy

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  there is a wide variance in knowledge, interests, and abilities among the members of an organization.
  if the influence of each member is equal, the effective wisdom of collective may not be better than the average
  even it can be worse than average if that is the aggregation of conflicting policies

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  larger body is better to establish close relationship between the members and the representatives, and better in terms of reflecting the overall decision

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- As a member, there is no need to study candidates or party programs,
  just delegating your vote to someone you trust

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- How do we implement the voting process ?
- How do we implement the decision-making process among the delegates ?

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(Ouroboros)

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  Setting a threshold value avoids the fragmentation attack that aims to increase the delegate population in order to damage the performance

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  the proxy can only sign the message ending with a slot number sl_j

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- if one of the representatives do not produce block, then this slot is skipped, and the protocol will continue with the next representative

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- as long as more than half of the scheduled 100 blocks are produced after a transaction is broadcasted, then this transaction assumed to be on the majority fork.

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  One representative may control multiple representatives, even more than half since the votes may not be distributed equally. it can quickly be identified, and eliminated