

It would also be interesting to investigate the performance and cost requirements of making the index distributed in the same manner as the distributed ledger itself. The model presented here relies on an observation node, to which the index is local. While of course this can be duplicated in theory on any node where it is required, without requiring any reference to a “central” index, it is not inherently distributed and it would be useful to explore how to make it so.

As distributed ledger technologies become more established, they are likely to be used increasingly to represent real world transactions involving many parties. The ability to search using domain specific terms across multiple ledgers will greatly enhance to power, usability and scope of these systems.

We have implemented a semantic index to the Ethereum platform, to expose distributed ledger data as Linked Data. As well as indexing block- and transaction-level data according to the BLONDiE ontology, we have mapped smart contracts to the Minimal Service Model ontology, to take the first steps towards connecting smart contracts with Semantic Web Services. This work has demonstrated that such a semantic index is possible and can be useful, and has highlighted the areas which need further attention in future work.

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