

Proof of Authority (PoAuth)

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Sandre provides the following definition¹⁾:

Proof of Authority (PoAuth) or (PoA) is an alternative consensus algorithm, a modified Proof of Stake in which a validator's identity replaces the role of the stake and, the nodes validating blocks are the ones explicitly allowed to do so. This peculiarity of Proof of Authority diversifies it from PoS since it allows to take into account the different interests that two nodes, even with the same amount of stake, may have in the network. A set of selected authorities has to create new blocks and secure the blockchain. The majority of the authorities have to agree on the current status of the transactions, and to sign off the chain; only then, it can be added to the blockchain and become permanent. The identity of a validator denotes the "congruity between a validator's identification on a platform with his official documents, i.e. certainty that a validator is exactly whom that person represents to be." A robust process at assessing whether the validators are whom they claim to be 24 or not is needed, and difficult eligibility ensures validators to be a scarce resource, this incentivizes them to retain the position they have earned since it is unpleasant to lose. "Individuals whose identity, and reputation is at stake for the securing of a network are incentivized to preserve the network."

To recap, with PoA consensus is essential to: first, establish that validators' identity is true, and second, make validators' eligibility for staking hard to obtain through multiple exams. This creates integrity and transparency within the validators and the network, ensuring trust and lowering the risk for nefarious threats.

¹⁾

Nicolò De Sandre, Leiden Institute of Advanced Computer Science (LIACS) Leiden University, [A Multicriteria Evaluation of Blockchain Technologies in the Healthcare System](#), page 35, 2 November 2018, Accessed 18 July 2021, <https://theses.liacs.nl/pdf/2018-2019-DeSandreNicolo.pdf>

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