

EIP 792

The standard for Arbitra(tion/ble) smart contracts.

A Primer on Blockchains

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- Can be edited as long as certain rules are followed (e.g. No double spending, no spending of others' funds, etc.).
- Guarantee provable data integrity, commonly through different consensus protocols based on cryptography + economics = cryptoeconomics.

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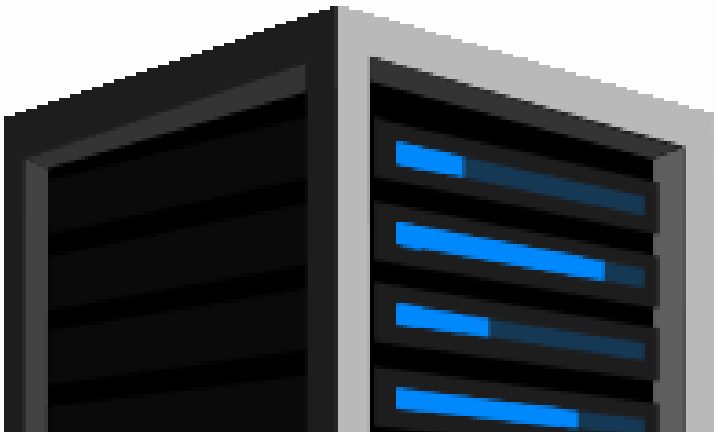
- Are turing complete, stateful programs that get sent in a special deployment TX and become immutable.
- Have their own address to which you can send TXs with some input data and value and have some logic executed on-chain.
- Guarantee provable data and state transition integrity through the chain they live on, in our case, Ethereum.

A Note on Smart Contract Design

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Traditional Back Ends:

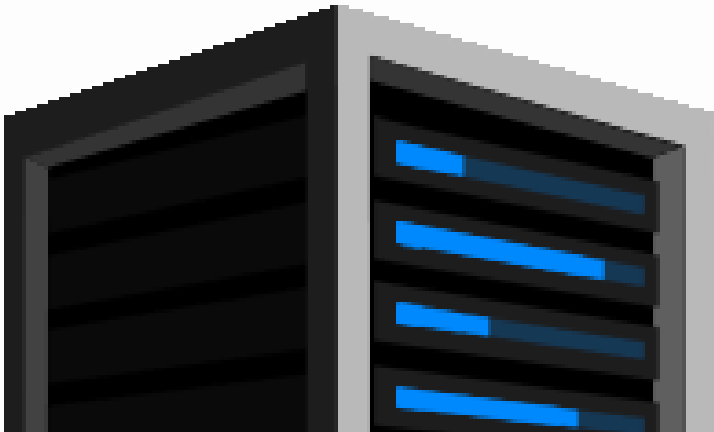
- Do most of the heavy lifting for the front end, because computation is cheap and faster than on the client.



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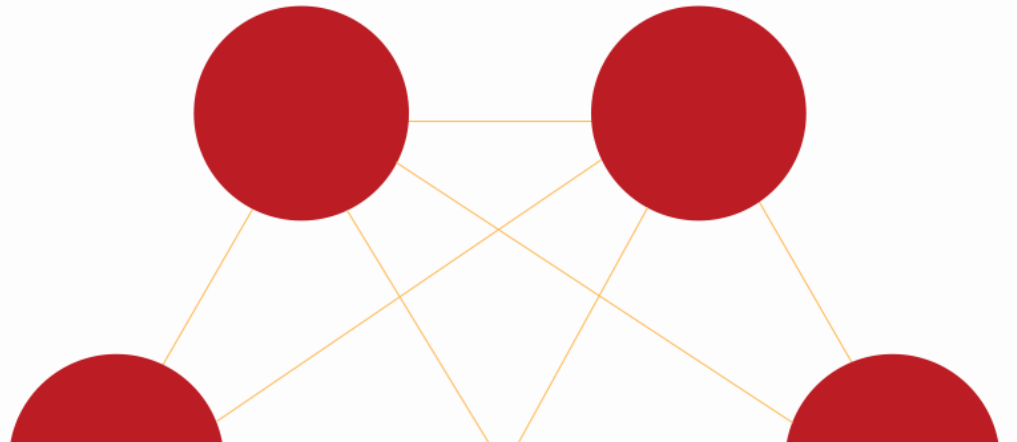
Traditional Back Ends:

- Do most of the heavy lifting for the front end, because computation is cheap and faster than on the client.



Smart Contracts Back Ends:

- Leave most of the heavy lifting for the front end, because computation is expensive and slower than on the client.



EIP 792 Arbitrator: Interface

```
contract Arbitrator {
    function createDispute(
        uint _choices, bytes _extraData
    ) public requireArbitrationFee(_extraData) payable returns(uint disputeID) {};

    function arbitrationCost(bytes _extraData) public view returns(uint fee);

    function appeal(
        uint _disputeID, bytes _extraData
    ) public requireAppealFee(_disputeID, _extraData) payable {
        emit AppealDecision(_disputeID, Arbitrable(msg.sender));
    }

    function appealCost(uint _disputeID, bytes _extraData) public view returns(uint fee);

    function appealPeriod(uint _disputeID) public view returns(uint start, uint end) {}

    function disputeStatus(uint _disputeID) public view returns(DisputeStatus status);

    function currentRuling(uint _disputeID) public view returns(uint ruling);
}
```

EIP 792 Arbitrator: Types and Events

```
contract Arbitrator {
    enum DisputeStatus { Waiting, Appealable, Solved }

    event DisputeCreation(uint indexed _disputeID, Arbitrable indexed _arbitrable);
    event AppealPossible(uint indexed _disputeID, Arbitrable indexed _arbitrable);
    event AppealDecision(uint indexed _disputeID, Arbitrable indexed _arbitrable);
}
```