

EY Blockchain Analyzer: Smart Contract & Token Review

Review the underlining code of smart contracts to increase confidence in blockchain-enabled transactions

The screenshot displays the EY Blockchain Analyzer interface. At the top, it shows the user 'Omer' and the organization 'My organization'. The main area is titled 'Simple Token' with the subtitle 'Grant and revoke minting rights | Mint'. A 'Mainnet Simulation' dropdown is visible. Below this, a 'Run testing story' button is present. A list of 10 steps is shown, all marked as successful with green checkmarks. The current step is '9 Revoke Minter role from 0001 (Execute a smart contract function)'. The 'Step details' panel on the right shows configuration for this step: 'Choose a contract' is 'SimpleToken', 'Choose a function' is 'revokeRole (bytes32, address)', and 'Function Arguments' includes 'role' (0x9f2df0fed2c77648de5860a4cc508cd0818c85b8), 'bytes32', 'account' (0x00), and 'address'. There are also fields for 'Ether value' (0), 'Execute the function?' (Yes), and 'Select a 'from' address' (0x00).

Business issue

The rate of development and adoption of smart contracts has increased significantly since the launch of the Ethereum blockchain. Smart contracts drive key business logic that is growing ever more complex as the connectivity becomes more sophisticated. Since smart contracts govern ownership and business logic of digital assets, companies, investors and end users are seeking to increase confidence and transparency in their use.

Solution description

Smart Contract & Token Review is an analytics tool aimed at providing confidence to organizations around the usage of and interaction with blockchain-based applications and smart contracts.

- ▶ **Security** – Deter hackers in order to keep your digital assets secure; identify common vulnerabilities, mitigate potential exploits and minimize the impact of new or unknown attacks by utilizing industry standards and creating customized tests
- ▶ **Business logic alignment** – Understand the expected output of your digital agreement as it is implemented in the smart contract's code; assess compatibility with the system design and functionality as it is declared in the published documentation
- ▶ **Simulation** – Create “what-if” scenarios through the Testing Studio; and run pre-defined automated tests and simulate smart contract execution by configuring selected functions through a user interface.

Business benefits

- ▶ **Trust** – Establish trust between counterparties in your ecosystem by supplying measures to assess the validity of smart contracts
- ▶ **Transparency** – Deliver insights about the behavior of the smart contract and design implications
- ▶ **Reduced risk** – Provide critical information required to mitigate the operational and inherent risks in smart contracts

Blockchain credentials

- ▶ **SolidBlock** – Securities trading and crowdfunding platform used the tool to test contract performance and possible attacks
- ▶ **Automobile insurer** – Provided internal review prior to launching a business-to-business blockchain application

Why EY

- ▶ True global delivery capability for blockchain
- ▶ One software-as-a-service infrastructure for all EY blockchain products on blockchain.ey.com
- ▶ Globally recognized as a technology leader in blockchain
- ▶ Applied for two patents for blockchain security

Industries

- ▶ Financial institutions
- ▶ Exchanges
- ▶ Regulators
- ▶ Technology

Stakeholders

- ▶ CISO
- ▶ CIO/CTO
- ▶ CFO
- ▶ R&D
- ▶ Compliance officer
- ▶ Internal audit

Technologies

- ▶ Blockchain
- ▶ Smart contracts
- ▶ Solidity
- ▶ Ethereum

Key contacts

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CS No. 2006-3535399
ED None

EYG no. 006314-20Gbl

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