GPv2AllowlistAuthentication

Architecture

The allow-list authenticator contract determines which addresses are solvers. Before executing any operation which is access-restricted to a solver, the settlement contract queries this contract to determine if the caller is a solver.

The smart contract allows a manager to add or remove solvers with an on-chain transaction. The manager can be replaced in a transaction by the proxy owner or itself. Any of these actions emit the corresponding event.

Guarantees and Invariants

- Only themanager
- or theowner
- can change themanager
- Only themanager
- can add or remove solvers

note As this contract is deployed with a proxy pattern, these guarantees are only valid for the current implementation of the contract. If the contract is upgraded, these guarantees may not hold.

Any malicious actor with access to themanager may be able to introduce a malicious solver. The malicious solver may be able to steal funds from the settlement contract (i.e. CoW Protocol), however, this doesNOT affect user funds.

Data Types and Storage

manager

The manager is the address that can add or remove solvers.

address

public manager ;

solvers

Thesolvers mapping stores whether an address is a solver.

mapping (address

=>

bool)

private solvers ; tip Thesolvers mapping is private, but it is exposed through theisSolver function.

Functions

Forowner

ormanager

setManager

Allows theowner or themanager to set a new manager.

function

setManager (address manager_)

external onlyManagerOrOwner ;

Formanager

addSolver

Allows themanager to add a solver.

function

addSolver (address solver)

external onlyManager ;

removeSolver

Allows themanager to remove a solver.

function

removeSolver (address solver)

external onlyManager ;

For anyone

isSolver

A view function that returns whether an address is a solver. This method is used by the settlement contract to ensure critical functions can only be invoked by accounts passing the allow-list authentication.

function

isSolver (address prospectiveSolver)

external

view override returns

(bool) ;

Indexing

- ManagerChanged
-
  - when the manager is changed
- SolverAdded
-
  - when a solver is added
- SolverRemoved
-
  - when a solver is removed

Off-chain