



DDI Protocol - White Paper

A decentralized infrastructure for replacing the Islamic Republic of Iran with a democratic government

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Document scope This paper describes the DDI protocol. It is a technical and governance description, not an offer to sell securities, investment advice, legal advice, or a promise of token value. Deployed proxy implementations, administrative roles, and production parameters must be independently verified before reliance or participation.

Executive Summary

DDI addresses two connected barriers to achieving democratic change in Iran. First, political groups may share the broad goal of establishing a democratic government yet lack sufficient trust to combine authority, information, funding, and personnel. Second, sustained political organization requires financial and human resources that voluntary donations alone rarely provide. DDI responds with a predefined, decentralized, and verifiable framework: a system of transparent, decentralized smart contracts through which participants can commit capital with a contract-defined path to repayment, subject to published conditions and risks; choose the people authorized to deploy the pooled funds; and verify decisions, balances, and results on a shared public record. By replacing private centralized assurances with enforceable decentralized rules and collective selection, the framework seeks to make cooperation, crowdfunding, and accountability possible among groups that do not otherwise trust one another.

DDI addresses these problems through an interdependent set of verifiable and auditable Ethereum smart contracts. The contracts govern participation, nominations, elections, executive authority, citizenship, and objective funding, while enabling each party to verify the actions of the others. Decentralized rules and public transaction records reduce the need for political groups to trust a single intermediary. The system does not create political agreement; it provides a common process through which competing groups can verify the same actions and balances.

DDIran's proposed alternative treats fundraising as participation through capital commitment. Contributors acquire or commit DDI under public rules, and the Treasury, staking, election, and OKR contracts determine how that capital enters, remains in, or leaves the system. The investment framing is important because it seeks a continuing relationship between the contributor and the protocol. It must not be presented as a guaranteed return, guaranteed redemption, or assured liquidity.

The Two Problems

Political Fragmentation and Lack of Trust

Groups seeking democratic change may disagree about leadership, priorities, ideology, representation, and control of shared funds. However, they may agree that Iran's current governmental structure must change. These disagreements become harder to resolve when participants cannot independently verify who has authority, how decisions were made, where money moved, or whether a promised result was achieved. In a centralized organization, participants must trust the organization's leaders and records. The reliability of the information depends on the accuracy and truthfulness of the data provided by that organization. This model is poorly suited to the twenty-first century. By contrast, a decentralized organization can provide verifiable records showing how resources move through the system. The validity of an election no longer depends solely on trust in centralized voting infrastructure. A decentralized voting process records each vote on a transparent and auditable ledger. DDIran makes the relevant rules, votes, and transactions decentralized and visible to every participating group.

Decentralization cannot create goodwill or settle political differences. It can, however, reduce the number of facts that depend on private assurances. When contract addresses, balances, eligibility rules, votes, role changes, and treasury actions are public, groups can disagree about policy while relying on a shared record of what occurred. This form of procedural trust provides a foundation on which political cooperation can be

tested. The infrastructure is useful to political groups that accept the principle that the option receiving the most valid votes should prevail. Groups that reject this principle may pursue their objectives independently, but their isolated efforts are likely to be outweighed by the cumulative power of a movement based on the will of the people rather than the preferences of any single group.

Insufficient and Unreliable Resources

Resources are twofold: human and financial. Both are scarce when seeking to change a large governmental system such as the Islamic Republic of Iran. In some respects, human resources are even more important than financial resources. Ultimately, democratic infrastructures such as DDI are tools designed to serve people; therefore, human capacity remains central. However, the effectiveness of human resources is constrained by available capital. People can work more efficiently when they have sufficient financial support. DDIran provides funding through a repayable crowdfunding model and makes each contribution verifiable. These resources are then entrusted to elected individuals who are considered qualified to perform the work.

Democratic organizing also requires sustained funding to achieve governmental change. Donation campaigns can provide important support, but they do not constitute a sustainable funding model. Donors normally surrender control of their contributions and receive no contract-defined economic path in return. This structure can limit the scale of fundraising, create pressure for repeated donation campaigns, and concentrate financial discretion within the organization receiving the money. DDIran seeks to address these limitations by connecting transparent funding with elected leadership, defined objectives, and verifiable results.

DDI first addresses financial resources through an infrastructure that treats fundraising as a transparent capital commitment. Contributors acquire or commit DDI under public rules, while the Treasury, staking, election, and OKR contracts determine how capital enters, remains within, or leaves the system. This investment-based structure is important because it seeks to establish a continuing relationship between each contributor and the protocol. It must never be presented as providing a guaranteed return, guaranteed redemption, or assured liquidity. Second, DDI makes these resources available to an officer elected through a democratic process. Every person who contributes to this effort should have an equally weighted vote in selecting the officer responsible for using the pooled resources.

Second, DDI addresses human resources by giving an officer elected through a fully decentralized democratic vote access to the available funds. The officer is responsible for selecting a team capable of achieving the objectives. The capital committed by those who proposed the officer remains locked, and its release depends on the officer's achievement of the goals. This structure holds the officer accountable for assembling a high-quality team and using the available human resources effectively.

This structure is intended to combine capable people with sufficient capital, allowing leaders who can create meaningful change to devote their full working time to replacing the Islamic Republic of Iran with a democratic government.

Problem	DDI's response	Contract expression
Lack of trust	Replace centralized workflow with decentralized smart contracts.	Wallet-based eligibility, public votes, contract events, disclosed balances, and role-controlled execution
No accepted shared authority	Free election among all participants with automated implementation of the election result.	Stacking board qualification, OfficerElection, elected-officer roles, CivilDuty committees, and OKRGovernance
Resources are scarce or episodic	Create a Treasury linked to participant capital commitments	DDI purchases, DDI mint and burn paths, Treasury reserves, staking, and candidate pledges
Donors cannot verify outcomes	Connect funding to published objectives and recorded review	Public OKRs, deadlines, committee votes, rewards, and Treasury execution events
Fundraising depends on repeated appeals	Offer a longer-lived participation and capital model	Time-locked DDI positions and contract-defined post-maturity paths, subject to liquidity and legal limits

Principles

DDI seeks to give political groups and individual participants a shared, inspectable process. It records contributions, eligibility, nominations, votes, executive authority, objective definitions, and selected Treasury actions on a public blockchain. The protocol is intended to coordinate people who may not trust one another enough to accept a central custodian. Its legitimacy therefore depends on published rules, verifiable software, clear limits on administrative control, and evidence that deployed contracts behave as described.

At the moral level, there is one principle: a free election determines who may direct the allocation of resources toward governmental change. At the technical level, DDI implements multiple design principles.

- Public verification. Contract addresses, balances, events, and role changes are independently inspectable.
- Defined authority. Each contract grants only the permissions required for its function.
- Measurable execution. Public funding should be tied to objectives, deadlines, measures, and recorded review. DDI's innovative OKR infrastructure is based on this principle.
- Open participation. The smart contracts define eligibility requirements and expose live Treasury stakes that participants can inspect before connecting a wallet or participating.
- Privacy. The protocol uses wallet addresses, while participants remain responsible for the public and permanent nature of blockchain activity.
- Inspectable changes. Upgradeable contracts require public disclosure of administrators, implementation history, and safeguards.

Protocol Architecture

The protocol is built around eight deliberately interdependent smart contracts: DDI, DDIG, Treasury, CitizenTax, Staking, OfficerElection, CivilDutyMembership, and OKRGovernance. Staking serves two related functions: it records time-based DDI commitments and determines board nomination and qualification. OfficerElection provides the protocol's democratic selection process, while CivilDutyMembership and OKRGovernance provide a system for citizen oversight, objective review, and accountability.

DDI is an ERC-20 token used in funding, staking, candidate pledges, and rewards. DDIG is a zero-decimal ERC-20 governance token used to establish eligibility for elections and civil-duty participation. The Treasury contract holds ETH and DDI and calculates an internal DDI-to-ETH reserve ratio from its balances. Tax payments, staking, purchases, withdrawals, and OKR results can change the Treasury's reserves or the DDI supply and therefore change this internal ratio. The ratio serves as a protocol self-evaluation indicator; it is not an external market price or a promise of token value.

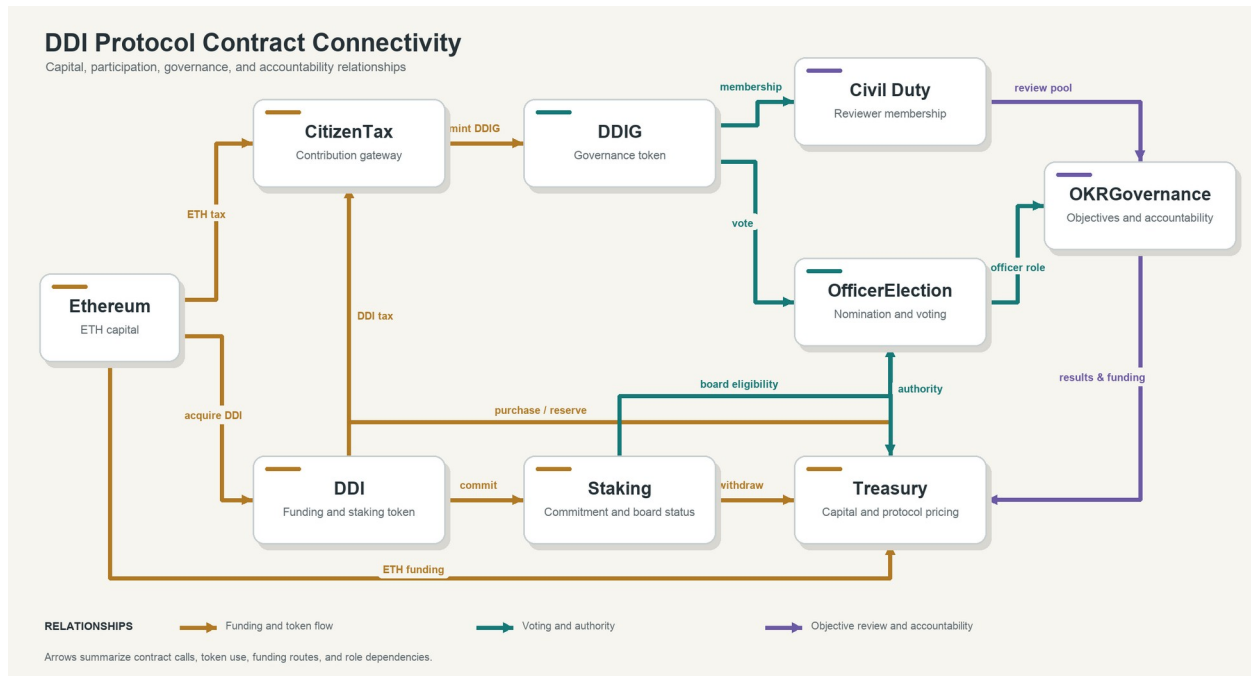


Figure 1. DDI protocol contract connectivity.

CitizenTax allows participants to pay in ETH or DDI and receive DDIG. Participants may use DDIG to vote in an election or pay the Civil Duty membership fee. Active Civil Duty members are randomly selected to review whether a published OKR was achieved. Random selection is key to reliable accountability. Selected reviewers receive DDI rewards for voting.

The Election contract coordinates the executive officer election. An active board member, identified through staking, may create an election and propose one officer candidate. Other board members may also pledge DDI to the proposed candidate or propose a new candidate. The board size is configurable and initially consists of 17 members. Each wallet holding DDIG may cast one vote in the active election. After finalization and execution, the winning candidate becomes the elected officer. The smart contracts record the votes, determine the winning officer, and automatically transfer ownership of the relevant contracts to the winning officer. The elected officer becomes the owner of the Treasury and OKR contracts and is responsible for establishing a team capable of achieving the objectives. Failure to achieve the objectives results in the burning of tokens belonging to the board members who nominated the elected officer, while achievement of the objectives repays the board members with interest. This system is designed to encourage board members to propose a capable officer and to motivate the officer to repay the board members' investment by serving the public. The election structure is based on the established governance model used by large corporations.

Component	Primary function	Material dependency
DDI	Transferable ERC-20 token with mint, burn, pause, and upgrade functions	Ethereum
DDIG	Zero-decimal governance token used for citizenship and civil-duty eligibility	DDI, Citizen Tax, Election, Civil Duty
Treasury	Receives ETH, calculates a DDI-to-ETH reserve ratio, mints DDI in purchases, and executes authorized transfers	DDI, Ethereum, Staking, Election, OKR
CitizenTax	Accepts ETH or DDI and mints DDIG according to the configured tax	DDI, Ethereum, DDIG
Stacking	Locks and burns DDI, records maturity, supports board qualification, and defines post-maturity withdrawal paths	DDI, Election, Treasury
OfficerElection	Creates elections, records options and pledges, accepts DDIG-holder votes, and updates the elected officer	Staking, Treasury, OKR, DDIG
CivilDutyMembership	Creates one-year memberships paid in DDIG and supplies addresses for committees	DDIG and OKR
OKRGovernance	Creates public objectives, selects review committees, records votes, and coordinates rewards and treasury actions	Civil Duty, Election, Treasury

DDI and DDIG

DDI Token Functions

Decentralized Democracy of Iran (DDI) is an upgradeable ERC-20 token that supports transfer, burn, pause, mint, and UUPS upgrade functions. Among the protocol's smart contracts, Treasury, Staking, and OKRGovernance can mint DDI, while CitizenTax, Staking, OfficerElection, and OKRGovernance can burn DDI.

DDIG Governance Functions

DDIG is an upgradeable ERC-20 governance token with zero decimal places. The CitizenTax contract mints whole DDIG units based on the amount of Ethereum or DDI paid relative to the configured tax. The Election contract checks whether a wallet holds more than zero DDIG before accepting one vote for that wallet in the active election.

Token Roles

Function	DDI	DDIG
Transferability	Standard ERC-20 transfers unless paused	ERC-20 transfers with zero decimals unless paused
Issuance	Authorized minter roles and protocol flows	Authorized minter roles including citizenship flow
Primary protocol use	Treasury purchase, staking, candidate pledges, and rewards	Election eligibility and civil-duty fees
Economic representation	The source links DDI issuance and burning to Treasury activity, but does not create a guaranteed fiat value	A governance eligibility unit, not proof of a unique person
Control disclosure required	Admins, minters, pausers, upgraders, supply history, and implementation address	Admins, minters, pausers, upgraders, supply history, and implementation address

Treasury and Funding Mechanics

The macroeconomic design of the Treasury is intended to measure the protocol's success, with the live Treasury price serving as the measure. The live Treasury price increases when the elected officer achieves the published goals or when the public participates in the infrastructure. In contrast, failure to achieve the goals results in depreciation of the live Treasury price.

The initial offering of DDI is capped at 20 million tokens, all of which are purchasable through the Treasury contract at the live price. When DDI is purchased during the initial offering, Ethereum is transferred to the Treasury, the equivalent amount of DDI is minted to the buyer's wallet, and the same amount is minted to the Treasury. This mechanism is intentionally designed to keep the Treasury price constant throughout the initial offering.

DDI minted to a buyer's wallet is transferable to another wallet and may be sold on the open market. DDI minted to the Treasury is used solely as a measure of success and may be minted or burned but not transferred. This model provides a basis for avoiding inflationary pressure on the circulating supply while preserving the live Treasury price as the measure of success.

The reviewed Treasury contract defines its displayed DDI-to-ETH ratio as the Treasury's DDI token balance multiplied by 10^{18} and divided by its ETH balance. The ratio expresses internal reserves in DDI per ETH. It is not an external-market price, redemption guarantee, valuation opinion, or statement that Treasury assets can satisfy every holder.

For a direct DDI purchase, the reviewed source calculates the buyer's amount using the ratio immediately before the incoming ETH is counted. It then mints that amount to the buyer and mints an equal amount to the Treasury. The source limits cumulative purchased DDI to 20,000,000 tokens. Because purchases change both ETH reserves and DDI supply, participants should evaluate the formula, rounding, liquidity, and mint authority together.

Treasury withdrawals are permissioned by contract role. The OKR contract can request ETH or DDI for the elected officer, and the staking contract can request ETH for a participant. The Treasury burns DDI when specified ETH leaves.

Staking and Board Nomination

Purchased DDI can be staked to earn interest at the rate defined in the Staking contract. Each wallet may create multiple stakes with different amounts and maturity dates. Stakes may be transferred to another wallet at any time, regardless of maturity. The minimum maturity period is 750 days, with no maximum. A participant may unstake the principal and accrued interest only after maturity. If the live Treasury price is favorable, the participant may instead sell a matured stake back to the Treasury at the live Treasury price during the 60 days following maturity. This 60-day window is the only period in which the protocol supports a DDI buyback.

In addition to earning interest, the Staking contract provides the basis for board membership. Only board members may nominate candidates for a democratic election. However, if more than five years have passed since the previous election, any participant may initiate a new election through the democratic process. Board membership is nomination-based: anyone may nominate themselves, but a nominee enters the board nomination list only if their qualified stake exceeds that of an existing board member, in which case the nominee with the smallest qualified stake is displaced. The nomination period opens 90 days after the previous election and closes 180 days before the next election. To be nominated, a decentralized qualification check determines the wallet's qualified stake and its expiration date at the time of nomination. Qualified stake is the sum of all stakes that have more than 1,110 days remaining at the time of nomination. The nomination's expiration date is the earliest maturity date among the qualifying stakes. The nomination list is limited to the configured number of board members. A new nominee with a larger qualified stake may displace the nominee with the smallest qualified stake. A new nominee with a larger unexpired qualified stake may also displace any nominee whose qualification has expired. If a nominee is removed from the list, renomination triggers a new qualification check. This reduces the possibility of using the same qualified stake to seek board membership through multiple wallets.

Board nomination is finalized 180 days before the next election, at which point the board members for the following four-year term are set. Final board members may nominate a candidate for election or pledge support to an already nominated candidate. Their qualified stakes are used to financially back candidates in the election. This financial backing provides the elected officer with resources for initial planning and team formation. Through the OKR contract, board members are repaid with interest if—and only if—the elected officer achieves the published goals. This structure intentionally makes the board members' financial benefit contingent on the elected officer's success, encouraging them to nominate only candidates whom they believe are highly qualified for the role.

Election

Finalized board members have 180 days to discuss potential officers who may be capable of successfully achieving democratic change in Iran. Each board member may nominate one officer or pledge support to an already nominated officer. The election begins at the predetermined time and remains open for two weeks. Only DDIG token holders may participate, using a live facial-verification process intended to prevent one person from voting through multiple wallets.

The election process is transparent because it is conducted on the Ethereum blockchain through the OfficerElection smart contract. Transactions are decentralized and publicly auditable, with no centralized vote-counting authority involved in the process. Each facially verified wallet holding DDIG may cast one vote for one of the nominated candidates. After the election deadline, no additional votes are accepted, and anyone may call the finalize function in the Election contract to confirm the result. This function automatically designates the elected officer in the other relevant contracts, enabling the officer to form a team, define OKRs, and obtain funding for approved objectives.

Civic Governance

Civil participation occurs at two levels. The first is participation through the election and voting process, as discussed earlier. The second is participation through a civic judiciary that determines whether the elected officer has achieved the predefined OKRs.

In both cases, DDIG is required. The CitizenTax smart contract accepts DDI or the corresponding amount in ETH. ETH payments are deposited into the Treasury without triggering a DDI mint, while DDI payments are burned from the Treasury through the protocol flow. In either case, purchasing DDIG to participate in civil duties increases the Treasury price—the ratio of Ethereum to DDI.

Objectives and Roadmap

The elected officer can create an objective with a description, measures, a deadline, and a requested amount. Civil-duty addresses are selected for a voting round, and committee votes record whether the objective was achieved. Voters receive a DDI reward under the reviewed source code. The current implementation must be audited before this process can be described as an enforceable separation between authorization, payment, and verification.

Upgrade and Administrative Authority

DDIran uses UUPS upgradeable contracts. Upgradeability can repair defects and evolve governance, but it also means the deployed proxy may execute logic that differs from an older published source file. A credible public deployment needs an implementation registry that links every proxy to its current implementation, verified source, deployment transaction, compiler settings, upgrade transaction, and administrator.

End of draft