FANTOM

Governance of the Fantom Network

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Level	🕮	Code	⚙	Actions	Voting Type	$	Veto	Max. Res.	Max. Min	Quorum
Constitution	FIP0		P0							
				Constitution change	MSC	✓	✓	20%	20%	50%
				Constitution change (S)	MSC			20%	20%	
				Parameter change	MSC			20%	20%	
				Proclamation	MSC			25%	25%	
Governance	FIP1	🗎	P1							
				Governance change	MSC	✓	✓	20%	20%	
				Parameter change	MSC			20%	20%	
Network	FIP2	🗎	P2							
				System change	MSC	✓	✓	20%	20%	
				Parameter change	MSC			20%	20%	
				SPV disbursement	MSC	✓	✓	20%	20%	
Settings			P3							
				Parameter change	SSC			-	33%	

Table 1: Overview of decision-making process

1 Introduction

This document presents the overall principles, bodies and rules on which the governance of the Fantom blockchain will be based.

2 Principles of distributed system governance

Most issues relating to governance of groups of human at any level are quite similar. We will focus on three areas relevant to distributed ledgers.

2.1 Consensus and minimizing the risk of forks

In the parliaments of democratic countries, decisions are usually made based on a majority vote. Occasionally, the vote will be on some controversial topic, where the losing side will be strongly against the decision being taken. But whatever the level of outrage against the winning side, the losers generally do not have the option to just secede and form a new country and a new parliament.

In a distributed ledger, this is different: a strong enough minority can attempt to fork the ledger. What this means is that the governance in distributed systems must focus on building a wide consensus among all stakeholders. We should speak of "on-chain consensus" rather than "on-chain voting".

The design of governance models must account for voting thresholds and define how many votes are required to achieve a change. In addition, the structure of opinions itself is important. If 65% of voters are strongly for some change, while 35% are strongly against, this may lead to a fork. An alternative proposal may have less support (say 60% moderately in favour) but with the other 40% either neutral or only slightly resistant - a potentially less controversial decision.

Meta-governance, i.e. how to govern or change the rules that make up the actual governance, also matters.

2.2 Implications of Anonymity

In a permissionless ledger, with anonymous or pseudonymous accounts, voting rights will naturally depend on the amount of native tokens held. This is akin to corporate governance, where the weight of a shareholder's vote is usually proportional to the holding of ordinary shares.

A "one person, on vote" governance system could be implemented by requiring every account that wishes to participate in voting to undergo a KYC process. This would, for obvious reasons, be impractical, unfair to most token holders and go against the basic philosophy of open and permissionless blockchains.

What does make sense is to weigh the votes of token holders by their activity. This not only gives more say to the most active members of the ecosystem, but also provides some security against attacks: an attacker wishing to disrupt the governance process would

have to not only purchase a significant amount of tokens, but would also have to generate (and pay for) a sufficient number of transactions. Accounts that are linked to an existing sovereign identity system could also receive higher weights.

2.3 On-chain versus Off-chain

Actions registered on-chain, such as a voting record, will be the visible and permanent record of governance actions on a distributed ledger system. It is important to note that this will be only the tip of the iceberg. Any meaningful vote will most likely be preceded by off-chain discussions and debates, which should be as open and fair as possible. The methods of achieving this should be part of the governance rules, as much as parliamentary debating rules are part of the representative democracy. Also, the process by which motions can be introduced for an on-chain vote must be specified.

3 Hierarchies of Governance

In most democratic systems, there is generally a hierarchy of acts or documents defining its functioning. A typical example is:

- The constitution, which describes the general principles of the organisation;
- Institutional acts, or organic laws, which describe the system's governance: its various decision-making bodies and the rules applying to the decision-making;
- Ordinary acts, or laws, which define the general rules of the system, other than governance.
- Executive orders, used when urgent action is required
- Regulations. When necessary, these define more precisely how general rules will be applied in specific situation.

Because this is a logical and time-tested hierarchy, the Fantom Network governance system will use some of these concepts.

3.1 Level 0: Constitution

The Fantom Constitution will describe, in a succinct way, the basic principles of the Fantom Network. These will include:

- the decision power rests with token holders
- token holders are responsible for managing their private keys
- the power of token holders will be related to their activity
- there will be no no censorship

- the ledger will be immutable, except in case of evident fraud
- description of decision-making bodies
- types of voting, with emphasis on discussion and consensus
- transaction costs should decline over time
- the network processing capacity should increase with demand
- rules under which the Constitution can be changed

The Fantom Network software, as well as its governance rules, must comply with the Constitution.

A small number of parameters, mainly the number of FTM tokens, are defined at the Constitution level.

3.2 Level 1: Governance

The Fantom governance rules, of which the present document constitutes the first version, define how decisions are taken in the Fantom network, including how changes to the decision-making process are done.

Some of these governance rules will be implemented in the governance functions of the Fantom Network software itself, while others will serve to rule off-chain interactions and operations.

3.3 Level 2: Core System

The Fantom Core System represents most of the system software, with the exception of governance functions. It also includes the Special Purpose Vehicle (SPV) which will hold Fantom tokens (FTM) that can be used to pay for system development, or reward projects that are useful for the Fantom ecosystem.

Its specifications are described in documents labelled as "Fantom Improvement Proposals (FIPs)" available here: [https://github.com/Fantom-foundation/FIPs]

3.4 Level 3: Settings

Some system parameters will change from time to time without requiring complex decision processes. The main example is the price of the FTG token.

4 Decision-Making Bodies

In this section, we describe the Fantom decision-making bodies. Their general roles can be summarised in the table below.

Body	Type
Fantom Foundation	Caretaker
Technical Committee	Executive
Moderators	Legislative (organising)
Assembly	Legislative
Review Board	Judicial

Table 2: Decision-making bodies

4.1 Fantom Foundation

The Fantom Foundation will initially have a key role to play, as it will nominate the first Technical Committee as well as the first team of Moderators.

It will retain an important role on an ongoing basis, as it will have a representative in the Technical Committee, nominate one of the Moderators, and have a 33% weight in the Review Board. However, after approximately one year, the foundation will no longer have this power.

The Fantom Foundation will initially also have a significant influence on votes, as it will be holding a large block of FTM tokens. The Foundation will use this voting power during the first year after mainnnet launch, in particular to effect changes in voting parameters to make them better correspond to actual voting and participation patterns of the Fantom network. The Foundation will then gradually refrain from influencing the vote of the Assembly.

4.2 Technical Committee

Role The main role of the Technical Committee will be to provide advice on the technical feasibility and costs of change proposals.

The Technical Committee will also be in charge of urgent bug fixes and for responding to emergencies. It will initiate emergency change requests and coordinate the implementation of such changes with core developers.

Composition The Technical Committee will be composed of 5 persons with a deep technical knowledge of the Fantom Network, some of whom are expected to be Fantom core developers. One will be named by Fantom Foundation, the 4 others will be elected by the Token Holders. They will have a one year renewable tenure.

First year exception: the members of the first Technical Committee will be designated by the Fantom Foundation, in consultation with token holders.

4.3 Moderators

Role Moderators will be in charge of introducing proposals for on-chain voting. Their role will be to observe and moderate off-chain discussions about system changes and improvements and gauge support for various proposals under discussion. For proposals that have sufficient traction, the Moderators will ask the Tech Committee's feedback as to feasibil-

ity and, if necessary, cost of the proposed changes. Depending on the feedback received, Moderators will decide whether to submit proposals to on-chain voting.

Moderators will decide where off-chain discussions will take place. This could be for example a wiki, or some existing discussion platform.

Moderators do not need to stake tokens for each proposal.

Any token holder can submit a proposal to be voted on. There will be a deposit per proposal to the network of 100,000 FTM funded by any number of accounts. If the proposal is accepted by the network, the deposit will be returned. If it's denied, the deposit will be forfeited. This should prevent spam (or is spam continues, the proposer will be simply given free money to the network). If someone modifies an existing proposal, they need to stake the same amount of the as the original proposal, unless the original proposal is changed to the modified proposal. Note that proposals submitted directly by token holders should be the exception rather than the rule.

We will assess the role of moderators and see if a better solution presents itself.

Composition There will be 5 moderators: one designated by the Fantom Foundation, and four chosen via sortition (random choice). The sortition will occur on-chain. In order to be considered, a token holder must identify himself, receive the backing of two other human token holders as well as deposit 500,000 FTM, which will remain locked during his tenure. Moderators will have a one year tenure.

In order to ensure that the network runs smoothly in the early days after the mainnet becomes operational, the first team of Moderators will be designated by the Fantom Foundation for a period of 6 months, in consultation with token holders. Consultation with token holders will be done by moderators via communication channels they set up for proposals and voting.

4.4 Assembly of Token Holders

With the exception of emergency changes, decisions will always be taken by a vote of the entire Community, comprising all token holders. Voting procedures will depend on the type of decision being taken.

In order to vote, a tokenholder will either have to stake their tokens themselves, or delegate them to a validator node.

In the case of emergency changes, token holders will have the right to veto.

4.5 Review Board

As its name implies, the role of the Review Board is to review decisions voted by the Assembly. The Review Board has a final veto power, should it find for example that a decision cannot realistically implemented, or conflicts with the Constitution.

Composition The Review board will be composed of 12 persons:

- 5 members of the Technical Committee;

- 7 members chosen among token holders by sortition;

In the event of a tie on the review board, a majority ($> 50\%$) is always required, so an equally split vote will lead the proposal to fail.

A member of the review board must make a 100,000 FTM deposit. If a member is kicked off the board, another sortition will take place to replace that individual.

5 Types of decisions

There are three types of actions to modify the Fantom Network.

- **Simple changes**: these are decisions which can be implemented without changes to the Fantom Network software;
- **Standard changes**: these are decisions whose implementation requires a change to software, and is therefore subject to technical uncertainty, as well as potential costs;
- **Emergency changes**: these require a simpler approach, but should not affect governance rules.

In general, the decision and voting procedure will depend on the hierarchy level of the decision.

5.1 Simple Changes

Simple changes will not require any in-depth analysis by the Technical Committee, nor will they require a cost estimate.

5.1.1 Simple Constitution Changes

Some changes to the Constitution may not have an immediate impact the the Fantom Network software, and can therefore be treated as simple changes.

5.1.2 SPV Disbursements

The community will be able to vote on disbursements of FTM tokens held by the SPV. Sucessful grant proposals can be paid in this way.

5.1.3 Parameter Changes

At every level of the hierarchy, there will be some parameters which can be changed without modifying the Fantom Network software itself. These can be changed, with the voting procedure depending on the hierarchy level.

The parameters will include, but will not be limited to, the following:

- Total number of FTM
- Price of FTG, the internal accounting unit of the Fantom system
- Distribution of block rewards
- Minimum number of FTM to run a validator node
- The percentage fee of the Special Purpose Vehicle (SPV)
- Fee paid to delegators by validator (initially set at 15% of validator earnings)
- "Proof of Importance" parameters for validators

Some of these parameters, such as the number of FTM, are expected to change rarely, if at all. Others, for example the price of FTG, is expected to change over time.

5.2 Standard Changes

Changes that go beyond network parameters will be discussed off-chain, and moderated by Moderators. Moderators will communicate with the Technical Committee and developers to evaluate technical feasibility of proposed changes, and to avoid unrealistic proposal being voted on (although it will be difficult to avoid this completely).

These changes will classified according to their hierarchy level:

- Constitution changes;
- Governance changes;
- System changes.

The length of the decision process, as well as the level of consensus needed, will depend on it.

5.3 Emergencies

In case of emergencies, or when serious bugs are identified, the ability to respond quickly is critical. There may be no time for a protracted discussion and voting process. In such situations, the Technical Committee can work with developers and validators to propose emergency updates.

Type of voting: Majority voting by Technical Committee, with blocking minority clause. Community then has a veto right during a short time window.

What will be voted on: Retroactively make changes to the state of the blockchain in case of evident fraud; dealing with critical bugs; other emergency situations.

Timing: as proposed by the Technical Committee.

6 Types of voting

6.1 Majority Voting

6.1.1 Emergencies

Proposals for emergency changes can be decided by the Technical Committe with a simple majority, with a quorum of 50%.

6.1.2 Emergencies - Veto

The Assembly will be able to veto any emergency decision via a majority vote organised by the Moderators immediately after a positive Emergency vote by the Technical Comittee. A veto can be obtained with a simple majority, subject to a quorum of 10% of voting power.

6.1.3 Veto of Assembly Decision

Decisions by the Assembly that have an impact on software and will therefore potentially incur expenses can be vetoed by the Review Board. Such a veto can be obtained by simple majority, with a quorum of 50%.

6.2 Consensus voting

In most cases, on-chain voting on the Fantom network will be done using the Resistance Count method described.

When Moderators organise indicative votes, to get initial feedback from the community and to weed out spurious proposals, a simple 3-choice vote can be used on a wide variety of options:

0 = No objections
1 = Neutral / Don't know
2 = I'm against it

Every voter votes on every option. For every option, the (weighted) sum of choices represents the resistance count, and the with the lowest resistance count being the most likely to be adopted.

These options that emerged from the indicative voting process can then be subject to another debate. Finally, a consensus vote can take place with a more fine-grained resistance measurement with the following options .

0 = **Agree strongly** - no objections at all
1 = Agree - almost no objections
2 = Agree somewhat - minor objections
3 = **Neutral** or don't know
4 = Some resistance

5 = strongly object
6 = **Very strong resistance**

The quality of the decisions will also be measured. Because we need to avoid polarisation, we will need to accept veto power of a minority when it comes to important decisions. We should not have decisions when there is a sizeable minority that very strongly objects.

A veto will be successful if the average score of all participants is greater than or equal to 3, i.e

$$Veto_{successful} = \frac{\sum_{scoreofeachparticipant}}{totalnumberofparticipants} \geq 3 \tag{1}$$

Therefore, a maximum score of 2 is needed to pass a resolution. This means that, on average, token-holders must agree to the proposal with few objections, meaning that a minority of tokenholders would likely be able to increase the score above 2.

Voting participation will be a factor in calculating "Proof of Importance", which impacts the overall number of rewards earned by the validating node and its delegators. Therefore, validators and delegators will be incentivised to participate in on-chain governance.

The exact parameters concerning veto power remain to be decided.

7 Guidelines for Moderators

It is not realistic to draft precise rules for the work of the Moderators at this early stage. Moderators should use their judgement to decide how fast issues should be put to a vote. Issues should be put into categories based on importance of the issues or clarity of thought of the issues. These categories should be organized based on the proposal and where it lies (constitutional, emergencies, network parameters system changes). Moderators should put all proposals into 1 of these 4 categories. We should however have some suggestions as to how long and involved the discussion process should be depending on the type of proposal - obviously a Constitution change should be discussed much longer than a simple system parameter change.

Voting in the Fantom network should not be a slow process as it is in other types of governance models. Decisions need to be made fast otherwise businesses and organisations will choose to use a different blockchain. Moderators will therefore need to keep within certain timeframes for organizing issues to vote on and having a vote and outcome: accepted or rejected.

Motions that do not have much traction should be rejected early on. Moderators can use things like signaling to determine if a motion has traction.

The one hard rule is about final votes, which need to reach sufficient consensus.

The type of voting system needed to reach consensus will depend on what category it falls into (constitutional, emergencies, network parameters system changes)

All Proposals must be consistent with the goals and values put forth in the Fantom Con-

stitution. Moderators will direct the community to discuss issues on an online platform, on which assenting and dissenting opinions can therefore be discussed. The purpose of the Proposal Process is to provide a structured process for making changes to the shared resources of the Fantom Network. For these shared resources, governance processes are needed to grant or deny access and approve or reject proposed changes. Moderators will be responsible for this process.

8 Voting power and rewards

The voting power of an account will depend both on tokens held and on that user's activity, with voting itself constitutions one type of activity. Therefore, actively participating in the voting process will for example increase a user's share of block rewards for delegated tokens.

In the future, Fantom network is expected to integrate with one or more SSI (Self-Sovereign Identity) platforms. Accounts that become linked to a real person via SSI will then be given a higher weight than unidentified accounts.

Technical Committee members and Moderators will receive a reward for their work, subject to a performance review by the Assembly.