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## *The Multi-Chain Bridge Protocol*

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### 1. INTRODUCING UNIWARP

- 1.1. Uniwarp is a decentralised, self-sovereign interoperability solution that allows a single token to be used on multiple chains through a process called “warping” - users lock their tokens on one chain and unlock matching tokens on another chain using a network of connected, smart contract vaults.

#### The Promise of Public Blockchains

- 1.2. Public blockchains are generally decentralised, permissionless, stable and trustworthy. They promise open, censorship-resistant access to the digital economy, without intermediaries or gatekeepers.

#### The Problem of Interoperability

- 1.3. However, these blockchains do not “talk” to each other. Value and use become siloed. Further, swapping one chain’s token for another means using centralised exchanges or other intermediaries. This undermines the purpose of public blockchains because middlemen become the bridge between them.

#### Uniwarp’s Solution

- 1.4. Uniwarp solves this problem through a multi-chain network of smart contracts that allow users to warp their tokens between chains by locking tokens on one chain in exchange for unlocking matching tokens on another chain.
- 1.5. It has four main components:
- (a) **Uniwarp Smart Contracts:** identical, open-source smart contracts that allow users to lock and unlock Warps on different chains while keeping the number of unlocked Warps across all chains constant.
  - (b) **Warps:** digital tokens minted by the Uniwarp Smart Contract on each supported chain;
  - (c) **Blockpigeon:** an authenticated inter-chain event relay solution that allows layer 1 contracts on different blockchains to communicate with each-other provided adequate gas is paid (see Blockpigeon.io.) that Uniwarp uses to let all Uniwarp Smart Contracts know when and how many Warps a user has locked inside any Uniwarp contract.
  - (d) **Contract Registry:** code within the Uniwarp Smart Contract on the nominated voting chain for the Uniwarp DAO that maintains the canonical list of smart contract IDs that every Uniwarp Smart Contract recognises to be part of the Uniwarp network.
- 1.6. In concert, these components create Uniwarp: a decentralised network of smart contracts on multiple chains that function as a cross-chain bridge, and so provide a useful addition to the decentralised finance (“defi”) ecosystem.

#### Uniwarp’s Decentralised Governance

- 1.7. Uniwarp is curated by its users through the Uniwarp DAO: smart contract-enabled code that gives holders of unvaulted Warps voting rights on a range of resolutions affecting the Uniwarp protocol, including adding and deleting smart contracts from the Contract Registry and the replacement of blockpigeon with an alternative messaging service.

### Uniwarp is Live, Now

- 1.8. Uniwarp is live and fully functional on three supported chains with the potential to grow to any chain that supports smart contracts. Why not join in?

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## 2. THE SMART CONTRACTS – UNIWARP’S BRAINS

- 2.1. Uniwarp Smart Contracts are open-source smart contracts programmed in whatever language the host chain supports that have the following features:
  - (a) All mint 100 million Warps and hold them as “locked”, except for the first contract which instantly unlocked and distributed all 100 million Warps to provide the initial supply;
  - (b) All broadcast any lock up of Warps as an “event” blockpigeon is configured to identify and relay;
  - (c) All are configured to receive relayed messages from blockpigeon; and
  - (d) All are programmed to unlock Warps if they are the nominated destination chain for any Warp-locking event from another contract.
- 2.2. So, while there exists 100 million Warps on every chain with a Uniwarp Smart Contract, the combined operation of all the contracts ensures only 100 million Warps are in circulation at any single time. All other Warps are locked within their respective smart contracts.

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## 3. WARPS – UNIWARP’S NATIVE CURRENCY

- 3.1. Warps are the native currency of Uniwarp. Warps are minted by each Uniwarp Smart Contract as tokens on the relevant chain.

Warps - The Details	
<b>Name:</b>	Warps
<b>Ticker:</b>	UWR
<b>Smallest Unit:</b>	0.00000001 Warps
<b>Distribution Mechanism:</b>	100% distributed upon minting from first contract
<b>Maximum Supply:</b>	100 million on each supported chain.
<b>Fixed Circulating Supply:</b>	fixed at 100 million across all supported chains – users must lock tokens on one chain to unlock them on another chain.

### Warps - Distribution Schedule

- 3.2. The 100 million Warps minted from the first Uniwarp Smart Contract were instantly unlocked and distributed to founders. No new unlocked Warps can ever be minted.

- 3.3. 100 million Warps are minted with every subsequent Uniwarp Smart Contract but all those Warps are locked inside the contract and can only be unlocked if a user locks matching Warps on another chain.

### Warps – Fixed Supply

- 3.4. The effect of this distribution regime is that, no matter how many chains have Uniwarp Smart Contracts, the following is always true:
- (a) The maximum unlocked Warps on any single chain is 100 million;
  - (b) The maximum locked Warps on any single chain is 100 million; and
  - (c) The number of Warps in circulation across all chains is always fixed at 100 million.

### Warps – Constrained Utility

- 3.5. By design, Warps have limited functionality as follows:
- (a) **Unlocked Warps:** Can only be locked inside their smart contract, or transferred between addresses on that chain.
  - (b) **Locked Warps:** Cannot be used until they are unlocked, and can only be unlocked as a consequence of Warps being locked inside a Uniwarp Smart Contract on a different chain.

### Warps – Value Through Limitations

- 3.6. It is this combination of constrained functionality and fixed circulating supply across all supported chains that gives Warps their utility as a cross-chain bridging asset.

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## 4. UNIWARP'S BENEFITS – A CROSS-CHAIN DEFI BRIDGE

- 4.1. A token that lives on multiple chains but can only be unlocked for use on a single chain at any one time is a powerful tool for bridging chains.

### Use-Case – Decentralised Cross-Chain Bridge

- 4.2. Thanks to the emergence of Automated Market Makers (AMMs), you can use Warps to swap tokens on one chain for tokens on another chain without using a centralised exchange. The process is as follows:
- (a) **Start:** You hold ETH, but want to hold BNB;
  - (b) **Swap for Warps:** Use an AMM, like Uniswap, to swap your Ethereum for Warps;
  - (c) **Lock Warps:** Lock your Warps in the Uniwarp Smart Contract on the Ethereum chain and nominate Binance Smart Chain (BSC) as the destination chain;
  - (d) **Relay Message:** Blockpigeon will receive this event and relay it to all Uniwarp Smart Contracts, including the Uniwarp Smart Contract on BSC.

- (e) **Warps Unlocked:** Upon receiving the relay from blockpidgeon, the Uniwarp Smart Contract on BSC will unlock a matching number of Warps for your BSC address.
- (f) **Swap Warps:** You can swap your Warps for BNB using an AMM, like Pancakeswap, on BSC.
- (g) **Finish:** You have turned your ETH into an equivalent value of BNB, less some gas and fees, without using a centralised exchange.

4.3. Uniwarp thus provides a useful addition to the defi toolkit.

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## 5. THE UNIWARP DAO – UNIWARP'S DECENTRALISED GOVERNANCE

5.1. Uniwarp Smart Contracts each contain code for a Decentralised Autonomous Organization (DAO) to oversee the growth and maintenance of the Uniwarp ecosystem.

### Voting Chain

5.2. To avoid multiple gas fees, one chain is nominated as the voting chain for the Uniwarp DAO. At launch, that nominated chain is Binance Smart Chain because of its speed and low fees. Changing the nominated voting chain is one of the things holders can do through the Uniwarp DAO.

### What Holders Govern

5.3. Through the Uniwarp DAO, holders can vote on a number of things related to the Uniwarp protocol as follows:

- (a) **The Contracts:** They can regulate the contracts that are part of the Uniwarp network by:
  - (i) Adding or removing a smart contract from the Contract Registry (adding or removing a chain);
  - (ii) Changing the pigeon address for a specified chain;;
  - (iii) Changing the contract id on a chain;
  - (iv) Disabling a chain (contract can send off the chain but not receive) and enabling it again.
- (b) **The Uniwarp DAO:** They can regulate the Uniwarp DAO itself by:
  - (i) Proposing a new voting contract;
  - (ii) Proposing a new time limit for proposals to expire;
  - (iii) Changing the number of tokens required to cast a vote; and
  - (iv) Changing the number of tokens required to make a proposal.
- (c) **The Messenger:** They can anoint a different messenger than blockpidgeon by changing the pigeon oracle key.

### Voting Rules

- 5.4. At launch, resolutions of the Uniwarp DAO are determined according to the following voting rules:
- (a) Anyone holding 1 million unvaulted Warps on the then-nominated voting chain may propose a Resolution provided they “lockup” their Warps for the purposes of voting;
  - (b) Anyone holding 100,000 unvaulted Warps on the then-nominated voting chain may vote on a Resolution provided they also “lockup” their Warps for the purposes of voting;
  - (c) Each 100,000 of Warps a user “locks up” entitles them to 1 vote;
  - (d) A Resolution is carried if 14 days (measured in a set number blocks on the voting chain) after the resolution is proposed the number of votes cast in favour of the resolution is double the number of votes cast against it;
  - (e) Any user can activate a carried Resolution if they pay the gas fees of implementing the Resolution;
  - (f) Any Resolution (even if carried) is automatically null and void if 7 days (measured in blocks on the voting chain) after the Resolution was carried nobody has paid the gas fees to implement the Resolution.
  - (g) Anyone can cancel a lapsed Resolution.

## Decentralised Governance

- 5.5. Together, these powers and voting rules allow holders of Warps to curate the growth and health of the Uniwarp ecosystem.

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## 6. FUNCTIONALITY AT LAUNCH

- 6.1. Uniwarp is live and fully functional on three supported chains:
- (a) Ethereum;
  - (b) Binance Smart Chain;
  - (c) Fuse;
  - (d) XDai; and
  - (e) Matic
- 6.2. Anyone can buy and use Warps on these chains.
- 6.3. Uniwarp can expand to any other chain that supports smart contracts. The Uniwarp community need only deploy the necessary contracts and vote to add them to the Contract Registry through the Uniwarp DAO.

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## 7. NEXT STEPS - HOW TO BE INVOLVED

- 7.1. Uniwarp is open to anyone and everyone.
- (a) **Website:** go to [uniwarp.io](https://uniwarp.io) for the webapp and start “warping”;

- (b) **Open-Source Code:** You'll find the code for Uniwarp's Smart Contracts here:

<https://etherscan.io/address/0xee32482f023c2fdd5c5f0a73083523eab4e9b8bd>

<https://bscscan.com/address/0x117db2f9449016350c706f8d9f40c67e2cf3f5a4>

<https://explorer.fuse.io/address/0x3871743af49F111b80D45523699C6d9523c1f780>

<https://explorer-mainnet.maticvigil.com/address/0x3871743af49F111b80D45523699C6d9523c1f780>

<https://blockscout.com/xdai/mainnet/address/0xCb062B77FFaCB47ea5439017257801871acC9Dd8>

and for the Uniwarp webapp here:

<https://github.com/uniwarp>

- (c) **Community:** Participate in the Uniwarp community:

- Twitter: @UniwarpCoin