



Frictionless White Paper

Version 2.1

March 29 2025

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Abstract

This Document aims to provide a technical overview of the Frictionless-Platform. The platform utilizes distributed ledger technology in the form of smart contracts to alleviate negative impacts on the development of tokenized projects and companies. This whitepaper explains current problems in DeFi and our solutions to the mentioned problems in detail.

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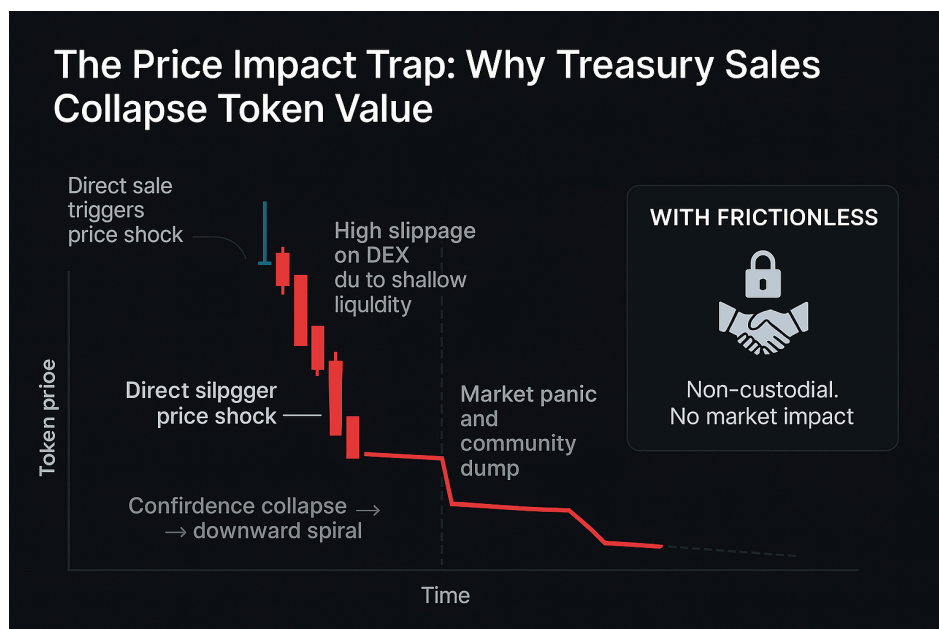
Introduction

Blockchain startups often rely on selling portions of their token treasury to fund development, but doing so on open markets can crash the token's price. Large holders ("whales") face a similar dilemma – any significant sale on a decentralized exchange (DEX) or centralized exchange (CEX) can cause high slippage and panic among other investors. The absence of a safe, off-market mechanism for these transactions has led to a chronic funding challenge in DeFi. Projects either risk price impact by liquidating on the market or turn to opaque over-the-counter (OTC) deals that² require trust in a counterparty. Both options are fraught with risks.

Frictionless Network presents a solution: a decentralized, peer-to-peer platform enabling token swaps that have no market impact. By leveraging immutable smart contracts and a novel routing model, Frictionless allows projects and investors to exchange large token quantities without slippage. All swaps occur wallet-to-wallet in a trustless manner – participants retain control of their assets throughout the process. This white paper details the current problems in token liquidity, Frictionless's hub-and-spoke architecture that routes trades via the FRIC token, and how our non-custodial "switch" contracts eliminate fraud and slippage in OTC trades. The result is a secure environment for token projects, investors, and market makers to transact large volumes without affecting public market prices.

1. The Problem: Price Impact and Inefficiencies in Token Sales

When a token project or early investor sells a large amount of tokens on the open market, it directly suppresses the market price of that token. This price shock triggers negative sentiment: other holders panic-sell, assuming insiders are dumping. Even if the sale is for legitimate fundraising, the contagion effect can push the token's price to unrecoverable lows, undermining the project's prospects. In traditional markets, a company raising funds by selling treasury stock is often seen as a positive sign if done responsibly – but in crypto, on-chain liquidity is shallow, so any sizable sell is interpreted as a bearish signal. Many otherwise promising projects have ceased operations because their necessary treasury sales sent their token into a downward spiral of lost confidence.



Compounding this issue is the lack of user-friendly OTC solutions in DeFi. Current decentralized OTC platforms typically rely on pre-negotiated trades with fixed prices or auction-style orders. These often result in marketplaces cluttered with stale offers that never execute. Without a continuous two-sided order flow, these platforms fail to provide the flexibility of a true exchange. As a result, many large token holders avoid off-market deals despite the potential benefits, simply because no trustless, convenient mechanism exists for them. Instead, they resort to informal deals via brokers or chat groups – which reintroduces the very trust and security risks blockchain technology is meant to eliminate.

Adding to the problem is the custodial nature of centralized solutions. The mantra “Not your keys, not your coins” remains pertinent: if users hand custody of their assets to an exchange or escrow agent, they expose themselves to counterparty risk. High-profile failures like FTX, Celsius, and Voyager demonstrated that even well-known platforms can misappropriate or lose user funds. Thus, token projects and investors are stuck between a rock and a hard place:

either tank their own market by selling on exchanges, or trust a third party (with fees and risks) to broker a private sale. There is a clear need for a non-custodial, transparent OTC mechanism that preserves token value.

Frictionless Solution Overview

Frictionless is a decentralized OTC exchange designed to solve these challenges. It enables project teams, large holders, and everyday investors to swap assets peer-to-peer without any price slippage or market impact. The platform introduces an innovative model where trades (called “switches” on our platform) are executed via smart contracts that enforce the deal terms and hold funds in escrow until both sides fulfill their obligations. This eliminates the need for trust between the two parties – the contract itself guarantees atomic execution (either both sides exchange their assets, or nothing happens).

Crucially, Frictionless employs a hub-and-spoke routing model for asset swaps. At the center of this model is the platform’s native utility token, FRIC, which acts as a routing intermediary. Instead of directly matching every possible pair of tokens (which would require deep liquidity for each pair), Frictionless routes trades through FRIC as the common hub asset. This allows optimal price discovery across multiple liquidity pools and blockchains. When a user sets up an offer (for example, to trade Token A in exchange for Token B), the platform’s algorithms determine the fair exchange rate by referencing on-chain liquidity where each token is paired with FRIC (and by extension, FRIC’s pairings with major assets like ETH or stablecoins). This multi-hop pricing approach ensures that even illiquid token pairs can be matched at fair market value via FRIC as the bridge.

To illustrate the user experience: an Offer Creator (e.g. a project) lists a quantity of their token for sale along with the assets they are willing to accept (say USDC and ETH). This listing appears on the public Offer Wall, which is a decentralized bulletin of all available offers. Interested Contributors (buyers) can then contribute any accepted asset to fill part or all of that offer directly from their own wallet. The trade executes through Frictionless smart contracts such that the project’s tokens and the contributor’s payment swap hands simultaneously on-chain, without either party ever relinquishing control to a middleman. Because the swap is priced via aggregated DEX rates (using FRIC routing), the project receives the full value it intended (no discount needed to entice a private buyer), and the contributor gets the tokens without moving the market price. In essence, Frictionless creates a win-win environment: liquidity moves off the public order books and through our platform, protecting the market price while still allowing value transfer.

Key Terminology

- **Offer-Creator:** A user (token project team or large holder) who creates an offer to exchange one of their assets for others. The assets an Offer-Creator is willing to receive in return are called their Wants.

- **Contributor:** A user who fulfills (fully or partially) an open offer by contributing one of the wanted assets in exchange for the offered token.
- **Switch:** The term used on the platform for a token swap between two parties. A switch can be public (open to any contributor) or private (restricted to specific participants).
- **Offer Wall:** The public interface listing all current open offers on Frictionless. It's essentially a bulletin board of switches that any eligible contributor can join.
- **Project Contract:** A dedicated escrow smart contract deployed for each project or token that joins the platform. It holds the tokens that a project has offered and ensures those tokens are only released under the agreed conditions of a switch. (*Note: This refers to the Switch or PrivateSwitch contracts.*)
- **Controller Contract:** The master smart contract that manages and coordinates Project Contract creation and price routing across the system. The Controller handles deploying new Project Contracts and routing contributions through the system, but does not update, modify, or cancel individual offers. The option to discontinue and deactivate Channels is available to Offer Creators in consultation with the admin team.
- **FRIC Token:** The native token of the Frictionless platform, used as the intermediary asset in multi-hop swaps and as a utility token for platform benefits (fee discounts, access to features, governance, etc.). FRIC is not a payment currency in the usual sense, but rather the connective tissue for the platform's liquidity and features.

3. Platform Architecture and Smart Contracts

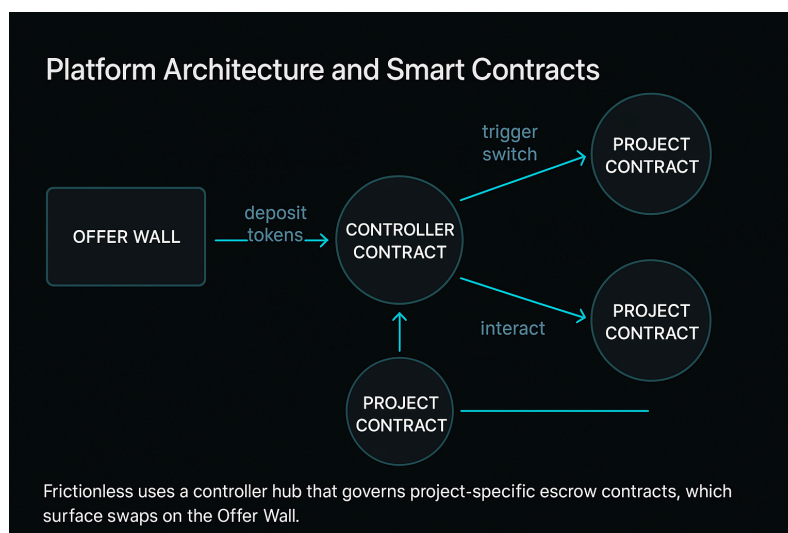
At the core of Frictionless's architecture is a modular smart contract stack that separates concerns for security and scalability. When a new project joins the platform, a unique Project Contract is generated for it. This project-specific escrow contract will hold any of that project's tokens which are put up in an offer, guaranteeing that the tokens are locked and available for the eventual swap. Each Project Contract is autonomous and publicly verifiable – once deployed, it cannot be altered or accessed by anyone except through the defined Frictionless protocols. This means even the Frictionless team has no custody or backdoor access to the tokens in escrow; the funds remain under the contract's control until a swap executes or the offer is cancelled by the creator.

All Project Contracts are orchestrated by the central Controller Contract, which acts as the brain of the platform. The Controller Contract links the front-end Offer Wall to the appropriate project escrows on the back-end. When an Offer-Creator sets up a new offer via the Frictionless interface, the offer is created directly on the respective Project Contract. The Controller Contract deploys the Project Contract but does not modify offers or manage offer listing directly.

If an offer is cancelled (provided no swap is in progress), the cancellation happens directly through the Project Contract itself. Offers cannot be modified once created. When a Contributor agrees to fulfill an offer, the contribution is made directly on the Project Contract. The Controller does not route or trigger the contribution.

This layered approach – an overarching controller managing many isolated escrow contracts – ensures scalability (new projects can be added seamlessly) and security (each project’s assets are siloed, and platform-wide changes can be managed via the controller without touching individual escrow logic).

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The Offer Wall serves as the user-facing aggregate of all active offers. Think of it as a decentralized order book where each entry is an independent smart contract offer. It displays the offered token, the amount, the list of acceptable counter-assets (wants), any premium or conditions, and the status (amount filled vs remaining). Because all offers are on-chain, the Offer Wall updates in real-time: if a portion of an offer gets filled, the remaining volume is immediately visible; if an offer is withdrawn or fully filled, it disappears from the active list. This dynamic updating is enabled by a hybrid approach: for responsiveness, the front-end fetches data from an off-chain database cache (updated continuously by listening to blockchain events), while final settlement and state are always confirmed on-chain. This ensures a smooth user experience with instant updates, without sacrificing the transparency of an immutable ledger in the background.

The combination of the controller + project contracts design yields a highly customizable system. Each Project Contract can have rules or parameters unique to that project’s needs (for instance, a project could enforce a minimum contribution size for its offers, or limit offers to

certain whitelisted addresses in a private channel). The controller can roll out such custom rules per project without affecting others. This modularity extends to upgrades: if the platform adds a new feature or support for a new blockchain network, the Controller can deploy updated contracts for new projects while existing offers continue under their current rules, maintaining backward compatibility. In summary, the architecture is flexible, secure, and non-custodial – every switch is processed by smart contracts that hold the assets in escrow, guaranteeing that no trade can execute except under the agreed terms, and that no single party (not even Frictionless administrators) can unilaterally seize or redirect funds.

4. Hub-and-Spoke Routing via FRIC

- Triangulation-Based Multihop Price Routing -

Frictionless Network employs a triangulation-based multihop routing mechanism to facilitate token-to-token swaps. Rather than relying on a single “hub” token for all trades, the platform dynamically calculates indirect liquidity paths between any two tokens using common high-liquidity assets as bridges. This means that when a user wants to swap Token A for Token B, the system can intelligently route the trade through one or more intermediary tokens (for example, Token A → ETH → Token B or Token A → USDC → Token B) to determine a fair exchange rate. By leveraging these indirect paths (often using well-established pairings like Ether or stablecoins), the platform can triangulate the price of any Token A/Token B pair with high accuracy – all without requiring a direct A-B liquidity pool or a single central asset for every swap.

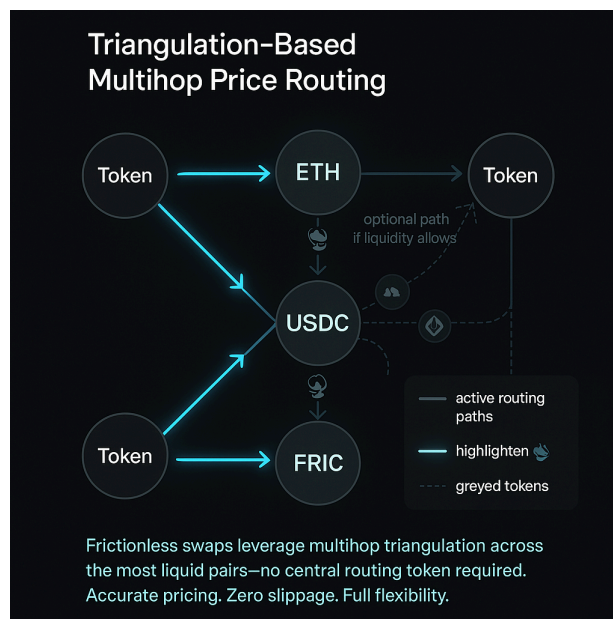
Accurate Multihop Pricing: This triangulated routing approach ensures that each swap is priced based on real-time market rates. The smart contracts evaluate Token A's value in a common reference asset (such as ETH or a stablecoin) and likewise Token B's value in that same asset. In effect, the system creates a *temporary price triangle* that links Token A and Token B through a liquid reference token. Because the reference tokens (like WETH or USDC) have deep liquidity and robust price discovery on the open market, the calculated exchange rate for the A↔B swap reflects prevailing market prices. Both sides of the trade get a transparent, up-to-date rate without needing a direct quote or oracle specific to that pair. This multihop price discovery is analogous to how DEX aggregators route trades through common base tokens to find the best price – with the Frictionless platform automatically picking the optimal intermediate route for every transaction.

No Single Hub or Direct Pool Required: Crucially, this design eliminates the need for every token on the platform to be paired with a single central “hub” asset to enable swapping. In the Frictionless model, for a swap between Token A and Token B to be possible, both tokens must have a liquid trading pair with a common base asset, such as FRIC, ETH, or a stablecoin. This ensures that Token A can be priced relative to the base asset, and Token B likewise, enabling a swap through triangulation.

Thus, while the platform removes the need for a direct A/B pool, both tokens must have active liquidity routes to a common connector asset for the swap to complete.

Any token can be swapped for any other without each project having to set up a dedicated pool with a central reference asset. The platform taps into existing liquidity pools and widely traded tokens to bridge gaps. This not only reduces fragmentation of liquidity but also makes it far easier to onboard new tokens – as long as a new token has *any* liquid pairing with a common asset (e.g. it's actively traded against ETH or a stablecoin somewhere on the market), the platform can route swaps involving that token by using the common asset as the connector. The result is a flexible network of routes that increases the overall liquidity available for OTC swaps and keeps pricing efficient and consistent across the board.

FRIC's Role – Utility, Not Mandatory Medium: It is important to note that FRIC is not used as a medium of exchange in the routing process. Unlike a pure hub-and-spoke system, Frictionless does not force every trade to go through the FRIC token. In other words, users do not need to convert their assets to FRIC in order to swap Token A for Token B. Instead, FRIC's role in the ecosystem is optional and primarily as a utility token. The routing engine will only include FRIC as an intermediary if it happens to be the best path for a given swap (for instance, if both tokens coincidentally have highly liquid markets against FRIC). In practice, most price routes will use major assets like ETH or stablecoins as described above, while FRIC serves other supporting functions in the platform.



FRIC as an Utility Token: By design, FRIC is not a mandatory bridge for transactions, ensuring that the platform's price calculations remain neutral and solely based on the most liquid paths available. Instead, the FRIC token adds value in other ways – it acts as a utility token that unlocks various platform features and benefits. For example, holding FRIC can reduce trading fees, grant access to premium OTC functionalities, and allow offer creators to promote their swaps on the Offer-Wall for greater visibility. FRIC may also be used in routing on an opt-in basis (or when a user specifically wants to involve FRIC in a swap), but this is a choice rather

than a requirement. In summary, FRIC is not the exchange medium for swaps on the platform; it remains an auxiliary asset that supports the Frictionless ecosystem (through fee discounts, governance, or other utilities) without being imposed on every trade.

This approach preserves FRIC's utility value while the triangulation-based multihop routing handles price discovery using the most liquid token pairings available, ensuring efficient and accurate swaps across the network. For more information on our token see [The FRIC Token: Utility and Role in the Ecosystem](#) down below.

5. Offer Creation and Switch Execution

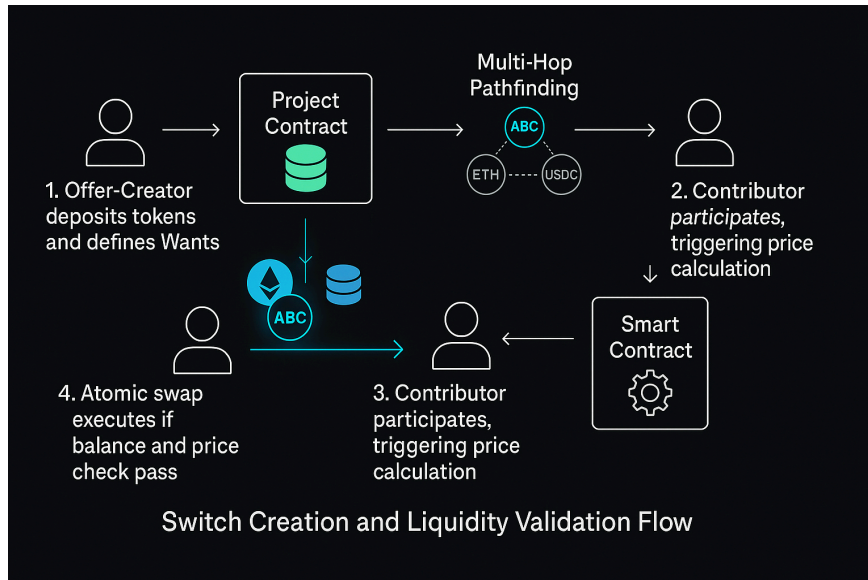
On our platform, setting up and executing a token swap (a Switch) involves a carefully orchestrated flow to ensure liquidity is sufficient and both parties are protected. When an Offer-Creator initiates a new offer, they specify the token they want to offer (and deposit the amount into their Project Contract) along with a single expected token they are willing to receive from Contributors. Each offer accepts only one expected asset. At this creation stage, the platform performs liquidity validation checks. It verifies that each proposed "want" asset has a viable price route to the offered token using multi-hop on-chain routing logic.

For instance, if the offer is 1,000,000 of Project ABC token in exchange for USDC or ETH, the system will check whether $ABC \leftrightarrow USDC$ or $ABC \leftrightarrow ETH$ can be priced using one or more intermediate assets (e.g. $USDC \rightarrow WETH \rightarrow ABC$). This validation ensures that when a Contributor comes with, say, ETH to trade, the smart contract can compute a fair exchange rate for $ABC \leftrightarrow ETH$ using real-time multi-hop price routing. If any asset lacks a reliable path with sufficient liquidity, the platform would reject it as a want option, prompting the Offer-Creator to choose a different asset or wait until routing becomes feasible. In this way, every offer listed on the Offer Wall is liquid and ready to be filled at transparent market-driven prices.

Once an offer is live, Contributors can step in to fill it (partially or fully). Let's walk through the execution of a switch: Suppose a Contributor decides to trade 50 ETH for a portion of the earlier example offer of ABC tokens. The Contributor initiates the switch by sending 50 ETH directly to the respective Project Contract, not via the Controller. The contract immediately calculates how many ABC tokens correspond to 50 ETH using the current multi-hop $ETH \rightarrow intermediate \rightarrow ABC$ rate from live on-chain liquidity sources. Let's say, for illustration, that 1 ETH is valued at 3000 ABC tokens at the moment (determined via multi-hop pathfinding). The contract would then prepare to release 150,000 ABC tokens ($3000 * 50$) from the Project Contract to the Contributor. Simultaneously, The 50 ETH from the Contributor is sent directly to the Offer-Creator's wallet, not held in escrow.

Atomicity is crucial here: the contract either swaps the assets in one transaction or the entire operation reverts (for example, if the price moved beyond a slippage tolerance during execution, or if either party doesn't have sufficient balance).

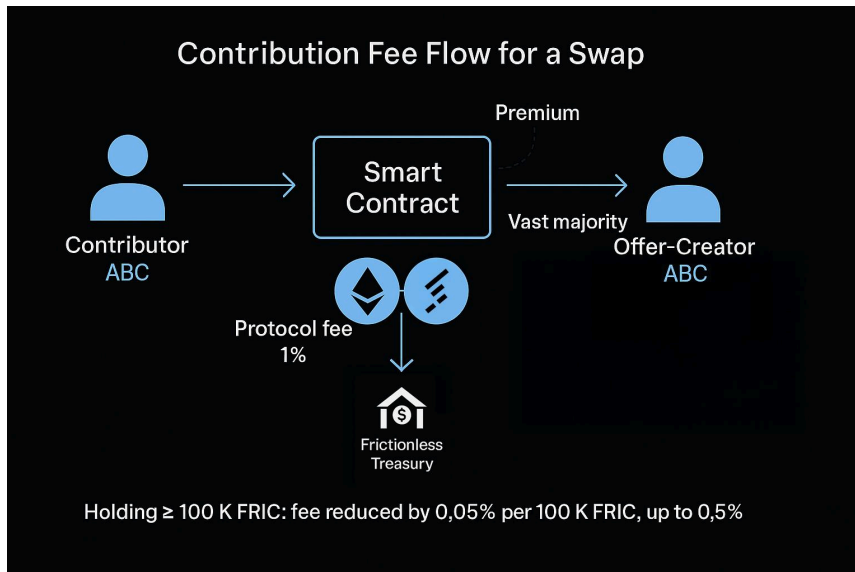
Assuming all is in order, the swap executes – the Contributor receives ABC tokens directly to their wallet, and the Project’s designated wallet receives the 50 ETH (minus any applicable fees, discussed below). The Offer on the Offer Wall updates, now showing 150,000 fewer ABC tokens available. If some of the offer remains, other contributors can continue to fill it until it’s exhausted or the Offer-Creator opts to close it.



6. Fee Structure and Contribution Incentives

Frictionless’s revenue model is built around a small per-transaction fee on each successful switch, with mechanisms in place to reward platform participants and token holders. By default, a 1% protocol fee is collected from each swap. This fee is taken in the assets being traded – typically a portion of the contributor’s payment asset or the offered asset, or split between both. For example, in the above swap of 50 ETH for ABC tokens, 1% of the trade (equivalent to 0.5 ETH worth of value) might be deducted. Part of that fee may be distributed as follows: a portion going to the platform treasury (for ongoing development and operations), and potentially a portion allocated as a Creator incentive or referral (if the platform designates rewards for offer creators or introducers). In addition, Offer-Creators have the option to set a premium on private deals (discussed in the next section). A premium is an extra amount of tokens granted to the Contributor on top of their base swap amount. Premiums are deducted from the offer creator’s deposited tokens and delivered to the Contributor as a bonus. Contributors do not pay the premium; they receive it. For example, if an offer sets a 5% premium, a contributor who fulfills 100 tokens would actually receive 105 tokens.

The platform enforces this premium structure at the smart contract level, ensuring contributors receive the premium as an incentive, rather than having to pay extra.



To encourage a vibrant ecosystem, Frictionless provides fee discounts for FRIC token holders. Users who hold FRIC in their wallets are eligible for reduced fees when they participate in switches. For example, for each 100,000 FRIC a user holds, the platform might reduce their fee by 0.05%, up to a maximum discount of 0.5% (as was the case in our earlier model). In practice, a contributor holding sufficient FRIC could reduce the standard 1% fee down to 0.5% for their trades. This mechanism not only incentivizes adoption of the FRIC token but also rewards loyal users by making large trades even cheaper. Over time, additional fee reduction schemes (such as staking FRIC or providing liquidity in FRIC pools) can further incentivize user engagement and reward those contributing to platform liquidity.

The fee structure is carefully calibrated to align incentives: Offer-Creators get the full amount of value they seek (plus any premium they require for private deals) without worrying about market slippage, and Contributors pay a modest fee for the convenience and price protection they receive (potentially offset by holding FRIC). The Frictionless protocol accrues revenue from fees, which can be used for platform sustainability – including FRIC buyback programs, liquidity provisioning, and funding future development – thereby feeding back into the ecosystem’s growth. It’s a circular model: as more high-volume trades move through Frictionless, the platform earns fees which can bolster FRIC’s value and liquidity, which in turn improves the platform’s ability to handle even larger trades with minimal impact.

7. A Crosschain Token Ecosystem

The triangulation-based multihop routing mechanism relies on intermediary tokens to facilitate efficient token-to-token price matching. In environments where cross-chain interoperability is constrained, such as with blockchains like Solana and Base, implementing native versions of the FRIC token becomes essential to maintain seamless functionality.

These blockchains possess unique architectures and consensus mechanisms that can hinder direct communication with Ethereum Virtual Machine (EVM)-compatible networks. For instance,

Solana's high-performance design and TON's multi-blockchain infrastructure present challenges for standard cross-chain operations. In such cases, deploying native FRIC tokens on these platforms ensures that the Frictionless Network's routing and pricing mechanisms operate effectively within each distinct ecosystem.

The introduction of native FRIC tokens on non-EVM chains serves multiple additional purposes:

- **Fee Reductions:** Holders of native FRIC tokens can benefit from reduced transaction fees, consistent with the incentives provided on EVM-compatible networks.
- **Payment for Services:** Native FRIC tokens can be utilized to access premium features and services within the Frictionless Network, enhancing user engagement across diverse blockchain environments.

To ensure equitable benefits for FRIC holders across all supported blockchains, the platform adopts a chain-agnostic approach to fee discounts and feature access. Revenue generated by the platform is strategically allocated to support and maintain the value of FRIC tokens across all networks, fostering a balanced and healthy ecosystem.

By implementing native FRIC tokens on blockchains where cross-chain compatibility is limited, the Frictionless Network upholds its commitment to providing efficient, secure, and seamless token swaps across a diverse range of blockchain platforms.

8. Public Decentralized OTC (DeOTC)

The Public DeOTC mode of Frictionless is the open marketplace aspect of the platform. All offers listed on the Offer Wall by default are public, meaning any contributor who holds one of the wanted assets can choose to participate. In this mode, an offer functions akin to a limit order in traditional markets, except that it is filled off the order books. The Offer-Creator specifies what they want (e.g., "Project ABC offers 1,000,000 ABC tokens, willing to accept USDC or ETH at market price"), and then waits. Offers accept only one expected token. Contributors cannot contribute different assets like USDC and ETH to the same offer. The Offer Wall ensures first-come, first-served fulfillment: as soon as a contribution transaction is confirmed on-chain, those tokens are reserved and swapped, reducing the available amount. Contributors cannot oversubscribe an offer – if two contributors try to fill the last portion simultaneously, only one will succeed (the other transaction would fail gracefully), thanks to the atomic execution and state updates on the project contract.

Public DeOTC is ideal for projects seeking broad participation or price discovery. For instance, a project may use Frictionless to conduct a private sale or treasury diversification, by putting an allotment of tokens on the Offer Wall. Interested investors from the community can fill the offer over time. Because everything is transparent and on-chain, the community can see exactly how much has been filled and the prices at which contributions are happening. This open approach

fosters trust: unlike an exchange order book that might be dominated by bots or unseen actors, the Offer Wall provides equal opportunity for all holders of the accepted assets to participate in the deal. It also preserves anonymity for contributors – they interact with a smart contract, not with each other directly, so one whale can fill a portion without revealing themselves beyond a blockchain address (and without sparking rumors, since the sale is not hitting the public exchange order books).

A key feature of the public mode is partial fills and batching. Offers do not need to be taken in one go. A large treasury offer can be filled by dozens of contributors over hours or days. Frictionless even allows batched contributions – batch contributions are possible, but they must target multiple separate offers – each offer corresponding to its respective expected asset.. For example, if there are three different project offers all accepting USDC, a contributor could contribute USDC to all three in one batch operation. The platform's contracts will distribute the USDC appropriately to each offer's Project Contract and return the respective project tokens to the contributor, all in one atomic action. This is something not possible on regular DEXs without multiple transactions. By enabling batch operations, Frictionless further improves capital efficiency and reduces transaction costs, making it practical for even smaller holders to take part in OTC deals that historically were accessible mostly to large, single buyers.

Public DeOTC thus transforms the OTC experience into a transparent and democratic process. Projects get liquidity without crashing their market price, investors get access to tokens at fair prices without slippage, and the broader market remains unaffected by these large transfers. It's a model that supports the health of the token ecosystem: needed sales (for fundraising or rebalancing) can occur off-market in a controlled way, insulating public market traders from sudden shocks. In the long run, widespread use of such DeOTC channels could lead to far more stable token markets, as treasuries and whales would have a standard avenue to execute large moves without spooking the retail market.

9. Private OTC (P-OTC) Channels: Multi-Party OTC Sandboxes

While the public Offer Wall provides transparency and openness, certain strategic transactions demand confidentiality, precision, and tightly controlled counterparties. For this, Frictionless introduces Private OTC Channels (P-OTC): a sophisticated framework that combines discretion with the full power of decentralized trustless execution. Each P-OTC channel allows the creation of P-OTC switches which function as OTC sandboxes. These are not merely private trading rooms—they are programmable enclaves where offer creators and pre-approved counterparties can interact in complex and dynamic ways. Inside a single P-OTC switch, multiple OTC offers can coexist and evolve simultaneously. P-OTC switches are not static trade options—they're customizable swap contracts with multiple layers of interaction possible between all whitelisted participants.

When a **Channel Creator** initializes a P-OTC channel, they control which wallets are whitelisted and gain the ability to create P-OTC switches. Any whitelisted participant can then create offers inside the channel's switches. The Offer Creator and the Channel Creator may be the same address or different entities. Importantly, each of those wallets is not merely a passive participant—they gain the ability to post counter-offers within the same P-OTC switch. This transforms the P-OTC switch from a linear offer mechanism into a multi-party OTC negotiation space. For example, a project might create an P-OTC switch to execute a pre-arranged deal with a strategic investor (such as a KOL or fund). Once the KOL is whitelisted and the deal is completed, the same P-OTC switch can serve a second lifecycle: it can host a new offer—this time *from* the KOL, allowing them to gradually offload a portion of their allocation post-marketing. The project itself might want to re-buy some of those tokens. By allowing both parties to post offers and counter-offers within the same sandbox, the Frictionless system enables circular, multi-directional liquidity flows without leaving the secure boundaries of the original switch.

This is a crucial architectural innovation: P-OTC switches function not as closed endpoints but as modular liquidity environments where all participants can contribute, withdraw, propose, or rebalance—without reinitializing contracts or disclosing activity to the broader market. All of this happens under the security of atomic, smart contract-enforced swaps. There is no need for custodians, no trust-based transfers, and no Telegram message-based deal coordination.

A project might create a single P-OTC Channel (the structural container), within which they spin up multiple switches—one for a private investor sale, one for a buyback program, and one for a treasury diversification loop. The channel remains the organizing layer; the switches become the active trading instances. This abstraction allows both simplicity and scalability, ensuring each OTC interaction has its own logic, permissions, and lifecycle.

From a technical standpoint, each switch enforces contribution rights via smart contract-level whitelisting. Even if the details of a switch leak, only the whitelisted wallets are permitted to fill offers or post new ones within that switch. This ensures complete deal containment and mitigates front-running risks or transactional leaks.

Custom Access Controls and Premium Logic

Each OTC Switch enforces access controls at the smart contract level. Offers are only viewable and fillable by addresses explicitly whitelisted by the channel creator. By default, each project may whitelist two wallets at no cost and expand that list by acquiring additional whitelist slots (e.g., through FRIC-based subscriptions or staking). Custom premiums are supported per switch and in future updates per offer. For instance, an exclusive 7% premium may be applied to a first-round investor, while a buyback offer in the same switch might execute at a market-rate discount in a different switch. These parameters are enforced by the contracts and transparently displayed to all whitelisted users, ensuring full clarity without disclosing anything beyond the switch's boundary.

Decentralized Privacy with Shared Logic

By combining these layered primitives—channels, switches, offers, and counter-offers—Frictionless delivers a private yet programmable OTC environment that preserves confidentiality while unlocking real multi-party coordination. Every participant inside a P-OTC switch can act not only as a contributor but also as an Offer-Creator. This unlocks use cases like:

- Internal KOL allocations with timed offloading
- Buybacks inside the same OTC sandbox
- VC-to-team token redistributions
- Shared liquidity agreements between DAOs or partner treasuries

None of this requires custom code or third-party escrow—each OTC switch simply inherits the Frictionless execution engine and enforces all logic trustlessly, while maintaining total isolation from the public Offer Wall.

Lifecycle of a Private OTC Channel

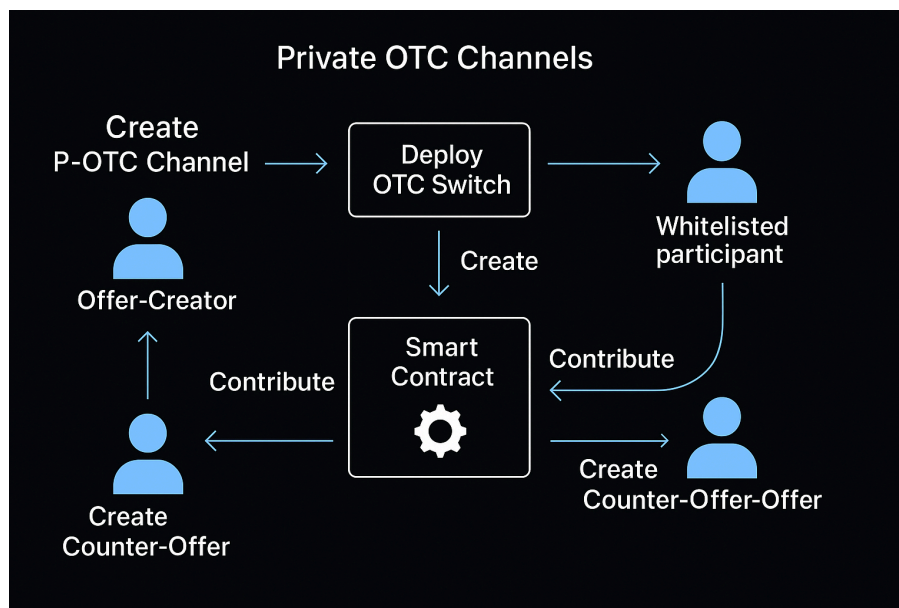
The architecture flows as follows:

1. OTC Channel Creation – A project initializes a private OTC Channel, defining the scope and use case (e.g., strategic sale, internal fund reallocation, etc.). The channel itself is a smart-contract-governed boundary that enforces private access and logical separation from public liquidity.
2. OTC Switch Deployment – Inside the channel, one or more OTC Switches are deployed. Each switch serves as an autonomous trading sandbox, handling offers, contributions, and counter-offers atomically. These switches are governed by the rules of the overarching channel.
3. Offer Creation – The primary Offer-Creator deposits tokens and defines their Offer inside the switch. Accepted counter-assets (e.g., ETH, USDC) and any applicable premiums are specified. Offers are invisible to non-whitelisted users.
4. Contribution – Whitelisted wallets can contribute to the offer, triggering a trustless asset swap via Frictionless smart contracts. All price computation occurs via multihop on-chain routes, ensuring up-to-date market rates.
5. Counter-Offer Creation – Any whitelisted participant may also deploy their own offer within the same switch. This might include resales, buybacks, or even new fundraising

rounds directed at specific peer wallets within the switch.

6. Counter-Contribution – Other parties (e.g., the original project or a secondary investor) can contribute to these counter-offers, creating a recursive OTC event tree that is still confined to the original P-OTC channel scope.

Each P-OTC channel can therefore host multiple OTC switches, each acting as a liquidity sandbox. This facilitates multi-party, multi-directional dealmaking that historically would require multiple siloed transactions across disparate tools and counterparties.



Frictionless grants each Channel creator one free P-OTC switch. These can be used to experiment with multi-party dealmaking without cost. If additional capacity is needed—either more switches within a channel or unlimited whitelist slots with a one time purchase—these can be unlocked using FRIC or via an upcoming FRIC subscription model. As expected, this ties back into the broader FRIC token economy: holding FRIC not only reduces fees and unlocks advanced features, it also expands what kind of OTC logic a project can implement.

10. Use Case: Preventing OTC Scam with Trustless Execution

To appreciate the importance of Frictionless's trustless architecture, consider a real-world scenario (with names changed for privacy) that has unfortunately been common in the crypto space. Project Atlas, a startup with a promising token, needed to raise funds for development. Rather than tank the market by selling on a DEX, they sought a private OTC deal with an interested buyer they found in a Telegram group. The deal, arranged informally, was that Atlas would send 10 million of their tokens to the buyer's wallet, and the buyer would then transfer 500 ETH to Atlas as payment. Atlas, anxious to secure funding, sent the tokens first. The buyer's 500 ETH, however, never arrived. The supposed investor vanished, leaving Atlas with no recourse – they had effectively been scammed out of a large portion of their treasury. Not only did Atlas lose those tokens with no compensation, but when the scammer eventually dumped the tokens on the market, Atlas's token price plummeted, hurting all existing investors.

Had Project Atlas used Frictionless's Private OTC switch, this costly incident would have been entirely avoided. Here's how it could have played out: Atlas would create a private offer on Frictionless, depositing the 10 million tokens into the smart contract escrow. They would whitelist the buyer's wallet address and perhaps agree on terms like "500 ETH for 10 million Atlas tokens" through the platform's negotiation interface. Crucially, at no point would Atlas have to send tokens directly to the buyer – instead, the tokens sit locked in the escrow contract. When the buyer is ready to pay, they would initiate the switch by sending 500 ETH into the same contract. The smart contract would then simultaneously release the Atlas tokens to the buyer and the 500 ETH to Atlas in one atomic transaction. If the buyer never sends the ETH, the contract never releases the tokens; Atlas could safely cancel the offer after a timeout and retrieve their tokens. At no time could the buyer unilaterally take possession of the tokens without paying, nor could Atlas accidentally lose control of their assets – the conditions of the swap are enforced by code. In the end, using Frictionless, Atlas would have received their 500 ETH funding securely, and the buyer would get the agreed tokens – a fair deal with zero trust required and zero chance of default.

This use case highlights the core benefits of Frictionless's non-custodial, automated execution model. By removing the need for trust in OTC trades, it protects honest participants from fraud. The transparent pricing via FRIC routing would have ensured Atlas got a fair market rate for their tokens (no hidden markups or last-minute renegotiation). Moreover, by executing the trade off-market, Atlas avoided any immediate negative price impact – the 10 million tokens would not flood open market order books, and any subsequent sale by the buyer could be managed gradually or even through Frictionless again. In essence, Frictionless not only prevents outright scams, but it also preserves the token's market integrity. In the Atlas story, both the financial loss and the secondary price crash (when the scammer sold) were devastating; Frictionless's architecture addresses both of these dangers. As many projects in the community can attest, deals conducted via chat groups or unreliable intermediaries often end in disputes or losses. Frictionless provides a much-needed safeguard: every deal either happens exactly as agreed or

not at all. This assurance is invaluable for token teams and investors handling high-value transfers. It brings peace of mind and security to a process that was once notoriously risky, thereby encouraging more funding and liquidity to flow in a safe manner within the crypto ecosystem.

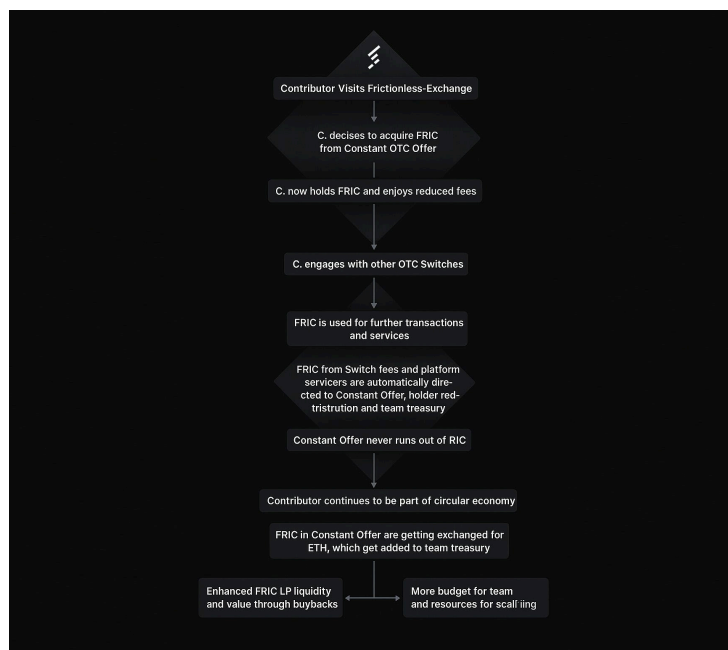
11. FRIC Token: Utility and Role in the Ecosystem

FRIC is the native utility and routing token of the Frictionless Network, functioning as both a critical technical enabler of smart contract operations and the backbone of the platform's circular economy. It is neither a payment token nor a stablecoin substitute—users are not required to hold FRIC to conduct trades—but its presence is embedded deeply into the system's pricing logic, fee structure, and long-term governance mechanisms.

From a protocol architecture standpoint, FRIC underpins Frictionless's multi-hop pricing model. Every on-chain offer and switch routes through FRIC-based liquidity pairs to calculate real-time price discovery across disparate token assets. The platform does not rely on isolated token pairs but instead uses FRIC as a central spoke in its hub-and-spoke liquidity logic. When a user sets up a Switch—whether in a public OTC Channel or within a private sandboxed P-OTC Switch—the smart contracts dynamically resolve asset-to-asset pricing through FRIC as a routing intermediary. This routing system ensures deep liquidity aggregation and scalable interoperability between a multitude of token assets.

Economically, FRIC is the access token to the broader Frictionless ecosystem. It governs the rules of participation, unlocks advanced OTC features, and links network growth to user incentives. Holding FRIC reduces the base protocol fee—from a default 1% per contribution down to 0.5% for users holding 1,000,000 FRIC (with 0.05% reductions for every 100,000 FRIC held). This gives strategic advantage to frequent contributors and OTC participants, especially those executing large or repeat contributions across multiple switches.

Moreover, FRIC acts as a loopback mechanism in the platform's circular economy. Protocol fees collected in third-party tokens are used for recurring FRIC buybacks, redistributing value back into the ecosystem. This is especially relevant in P-OTC Switches, where multi-party offer creation may involve custom deal structuring, KOL allocations, and token buyback requests. When any such contribution is finalized, the underlying smart contract logic—powered by FRIC—automatically enforces fee routing, treasury capture, and, if configured, FRIC-denominated redistribution.



As a governance token, FRIC empowers holders to guide the evolution of the Frictionless protocol. Governance proposals—such as altering fee tiers, expanding OTC channel permissions, or introducing new blockchain integrations—are submitted and voted upon by FRIC stakeholders. This ensures that the protocol’s trajectory aligns with the interests of its most invested users, particularly those building recurring OTC strategies using sandboxed Switches.

FRIC also unlocks exclusive features. Offer-Creators and participants who stake or hold FRIC gain privileged access to an expanded set of toolkit functions within OTC Switches: additional private Switch deployments, extended whitelist capacity, visibility into aggregate deal metrics, and—in future iterations—access to automated strategy modules that simulate treasury streams, buyback ladders, or conditional release offers.

Circular Value Loop: FRIC at the Core

This utility model generates a feedback loop: users holding FRIC pay lower fees, contribute more actively, and gain more value through premium access and governance influence. The protocol, in turn, accrues more fees, increasing the FRIC buyback demand. Those bought-back tokens may be used in platform-wide offers, incentivization pools, or distributed to governance participants. This creates a closed economic circuit centered on network usage and sustainability, ensuring that FRIC’s value is directly indexed to the growth and health of Frictionless OTC infrastructure.

This loop is particularly pronounced in complex deal scenarios executed within OTC Switches. For example, a token project may initiate a P-OTC sandbox for strategic allocation to a KOL, then use the same switch to whitelist that KOL’s wallet for a post-marketing buyback counter-offer. All of this takes place within one smart contract sandbox—one OTC

Switch—where multiple parties can engage in trustless, atomic transactions, powered by FRIC-routing and protocol fee infrastructure. These mechanics would be impossible to coordinate through traditional OTC or exchange models.

FRIC as the Switch Economy's Lifeblood

Unlike generic exchange tokens, FRIC derives its utility from solving the inefficiencies of large-scale OTC token movement: market impact, trust issues, and execution fragmentation. By embedding itself into every step of a multi-party deal—routing prices, reducing fees, powering smart contract logic, governing network upgrades, and facilitating liquidity capture—FRIC functions as the connective tissue of the Frictionless protocol.

12. Frictionless Future

Frictionless Network brings to the Web3 space a much-needed solution for large-scale token liquidity transfers. By addressing the twin challenges of market price impact and trust in OTC trades, Frictionless has the potential to fundamentally change how projects manage their treasuries and how investors trade big positions. No longer must a project's success be jeopardized by the very act of funding its development; no longer must whales secretly unload holdings at a loss or risk being scammed in shady backroom deals. With Frictionless, every significant token trade can be executed in a way that is fair, transparent, and does not punish the market. The platform effectively creates a parallel, decentralized exchange specifically optimized for large transactions – one that complements traditional exchanges by handling the blocks that would otherwise roil the markets.

Looking ahead, Frictionless is poised to evolve into a full-fledged decentralized P2P exchange that retains an order-book-free, OTC-style experience. The roadmap includes expanding to multiple blockchain networks (the platform's smart contracts are already tested on Binance Smart Chain, Polygon, Algorand, and Ethereum, and more chain integrations are planned). This multi-chain presence will allow liquidity to flow across ecosystems, with FRIC possibly serving as a bridge asset in cross-chain swaps as well. The team's vision extends to integrating Frictionless technology directly into other platforms: for example, as a plug-and-play module for token launchpads or exchanges. Projects could host an OTC offer on their own website's interface, powered by Frictionless on the backend, introducing their communities to seamless off-market trading without ever leaving the project's site. Such white-label integrations, along with partnership with major market makers, will broaden Frictionless's reach and volume.

Another area of future development is enhanced tooling for market makers and institutions. Traditional market makers can use Frictionless to transfer liquidity between exchanges without unpairing and dumping tokens, as described in our liquidity migration feature. The platform plans to collaborate with these entities to further refine batch operations and perhaps introduce algorithmic strategies where a series of offers can simulate a controlled release of tokens over time, all off-book. As adoption grows, community governance via the FRIC token will guide

these expansions – whether it's adjusting fees, releasing new features, or even exploring layer-2 solutions to reduce gas costs for users, FRIC holders will have a voice.

Frictionless Network stands to become an integral support layer for tokenized startups and the broader DeFi ecosystem. By enabling trustless, non-custodial OTC switches, it protects projects from the adverse effects of necessary fundraising and provides investors a secure avenue for large trades. The architecture's blend of smart contract escrow, hub-and-spoke liquidity routing, and modular features (public vs private deals) makes it a robust, adaptable solution. As more projects embrace Frictionless for their treasury management and as more traders realize they no longer have to choose between liquidity and price stability, we foresee a future where the phrase "frictionless trading" becomes synonymous with any large crypto transaction executed responsibly. In that future, liquidity flows freely yet silently, nourishing projects without rattling markets – a future made frictionless.

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