Khalani Arcadia: An Open Platform for Intent-Driven Agent Collaboration

1. Background

The Arcadia Intents Protocol (AIP) is a set of interoperable protocols built on the first mainnet of the Khalani blockchain for universal coordination and intents processing. Together with Khalani blockchain, known as Khalani Arcadia, AIP is designed to transform any blockchain-adjacent agent networks into collaborative solver networks, all orchestrated through intent-based coordination.

2. The Rise of Off-Chain Intermediaries

The blockchain ecosystem has undergone a fundamental transformation in how transactions are executed. What began with users directly submitting transactions to public mempools has evolved into a complex landscape increasingly mediated by specialized off-chain agents and service providers. This shift is driven by several key factors: the need to shield users from MEV and other exploitative behaviors, the imperative to streamline user experience by abstracting away blockchain complexity, and the growing demand for off-chain services that enhance functionality. These pressures have given rise to transaction intermediaries - such as aggregators, private mempool operators, paymasters, solvers, auction providers and market makers - that either directly or indirectly act as users' transaction counterparties.

On the application side, developers are also intermediating and enhancing their apps with off-chain services - whether by incorporating off-chain compute and data co-processors, capturing MEV with application-specific sequencers, or implementing differentiated pricing via orderflow discrimination. Meanwhile, blockchains themselves rely more heavily on an ecosystem of service providers, such as block builders, searchers, zero-knowledge provers, and confirmation providers, to ensure decentralization, capture MEV, and accrue value to validators.

The rise of multi-chain ecosystems has made coordinating transactions and services across different networks increasingly complex for developers and users alike. Cross-chain transactions are now facilitated by an elaborate and complex network of

intermediaries: relayers for message passing, settlement oracles for finality verification, validators to secure bridging protocols, shared sequencers to coordinate ordering, and multi-chain block builders to construct blocks across diverse networks. Each additional chain integration introduces new execution environments, security models, and finality guarantees - exponentially magnifying the coordination challenges for successful cross-chain transaction execution.

Yet, this growing reliance on intermediaries also reveals a profound insight. When every participant - users, apps, capital, and blockchains - interacts through specialized off-chain agents, a fully decentralized, programmable, and open-participation off-chain agent collaboration network can simultaneously optimize a global transaction supply chain spanning all blockchain networks, enable seamless interoperability across all domains, and allow different participants to express and source aligned optimization. By harmonizing the roles of diverse service providers under one framework, this approach transforms disparate chains into a unified environment for execution, development, and capital, creating the experience of a single, cohesive blockchain. Moreover, it enables off-chain service networks to collaborate, amplifying efficiency and innovation across the ecosystem.

Finally, the rise of AI agents, intelligent automated systems powered by large language models or advanced machine learning, introduces yet another dimension to off-chain intermediation. Once freed from the constraints of on-chain state machines, these AI-driven intermediaries can discover opportunities, price complexity more accurately, and execute multi-step processes with minimal human oversight on behalf of users, apps, or capital. By seamlessly integrating with other agents via intent-based coordination, these AI-driven intermediaries enhance the platform's flexibility, enabling more efficient task execution and collaboration across diverse networks and use cases.

3. Challenges and Current Solutions

As the blockchain landscape grows more complex, a diverse set of off-chain agents - including relayers, solvers, market makers, co-processors, provers, auction providers, and others - are stepping in to address everything from interoperability, MEV mitigation to liquidity sourcing and user-experience enhancements. While these off-chain intermediaries provide valuable services, they also introduce significant challenges in terms of trust, integration complexity, and ecosystem fragmentation.

3.1 Current Challenges

Challenge 1: Trust and Transparency

Off-chain agents often have opaque operational logic, e.g., undisclosed rules for ordering transactions or discretionary fee structures. Users and developers must decide which agents to trust (and how much) in executing or relaying critical operations:

- **Hidden MEV or Front-Running:** Some agents may exploit privileged information, negating the MEV protections they are supposed to provide.
- **Limited Accountability:** Unless robust cryptographic proofs or crypto-economic mechanisms are in place, verifying an agent's honesty can be difficult.

Challenge 2: Discoverability and Integration

With so many specialized off-chain agents, each offering distinct services:

- **Siloed Integrations:** Developers often integrate on a one-to-one basis (e.g., an app chooses a particular aggregator or bridging tool). This creates custom code, ongoing maintenance burdens, and potential vendor lock-in.
- **Higher User Cost:** Lacking robust discoverability and runtime integration mechanisms means many projects rely on fixed or predefined integrations. As a result, users may be forced into suboptimal routes or counterparties, paying higher fees or receiving worse outcomes.
- **Fragmented Ecosystem:** Each new agent or solution tends to proliferate yet another interface or standard, complicating efforts to scale across multiple chains or user bases. Because new or specialized off-chain services often emerge with unique requirements, it's challenging to design a universal standard in advance. Developers inevitably patch or rewrite integrations as new protocols appear, reintroducing complexity and technical debt. Moreover, the sheer variety of specialized off-chain agents leads directly to partial solutions and limited liveness, which we explore next.

Challenge 3: Partial Solutions and Liveness

Most agents solve *some* piece of the transaction puzzle, like bridging, trading assets, or multi-sig validation, but rarely provide a fully integrated cross-chain experience:

- **Incomplete Value Chain:** A local solver may handle on-chain settlement, but still needs separate bridging logic for cross-chain finality. An auction provider might optimize MEV but require market makers to provide liquidity.
- **Liveness and Redundancy:** If an off-chain agent goes offline or misbehaves, the entire flow can break down. Ensuring fallback mechanisms or redundancy can be technically complex and expensive.

Challenge 4: Multichain Interoperability

Cross-chain operations involve bridging assets and data across different trust assumptions, consensus models, and finality guarantees. Off-chain agents need to:

- **Maintain Multiple Integrations:** Handling varied bridging protocols (light client proofs, ZK proofs, or multi-signature notaries) is non-trivial.
- **Concurrent and Atomic Settlements:** A multi-chain transaction might need synchronous or near-synchronous finality, yet many bridging solutions are asynchronous with significant delay, creating timing and reliability issues.

3. 2 Current Solutions

Today's off-chain coordination landscape features three principal models: application-driven markets, use-case specific solver networks, and shared marketplaces. Each presents unique ways of connecting demand with supply of services. Yet, despite their usefulness, these models often struggle to address the deeper challenge of building a truly universal off-chain agent network that can support any chain, asset and markets.

Solution 1: Application-Driven Markets

In an application-driven model, owners of substantial orderflow, such as super apps or leading wallets, take it upon themselves to establish market structures, integration interfaces, and settlement requirements. Their significant transaction volume allows them to draw service providers who benefit from exclusive or privileged access. This can lead to well-optimized user experiences within the specific app ecosystem.

However, for newer or smaller applications lacking the same level of traffic, persuading external agents to integrate can be prohibitively difficult. As a result, they may need to build their own off-chain infrastructure or settle for suboptimal integrations, creating a fragmented environment in which each app reproduces the same off-chain logic on its own.

Solution 2: Use Case Specific Solver Networks

Another approach is the creation of solver networks that cater to a particular domain - bridging, trading, liquidation, execution, or any other specialized area. Here, the solvers define how the market is structured, how assets move between participants, and which settlement rules govern final transactions. Such networks can be resilient if they encompass multiple solvers, ensuring continued service even if one fails or acts maliciously.

As these networks usually serve a single use case, applications wanting multi-faceted functionality (for example, bridging and trading) must connect with multiple solver networks and manually orchestrate workflows, leaving developers to navigate and stitch together disparate infrastructures and handle error conditions on their own.

Solution 3: Shared Marketplaces

A third model involves shared marketplaces, typically run by specialized off-chain operators that match supply and demand within a narrowly defined domain - such as bridging particular sets of assets. By aggregating demand and supply, these marketplaces remove the burden of discovery from individual users or apps, and impose consistent settlement logic for everyone who participates.

The drawback lies in the operator's prescribed trust assumptions and rigid clearing rules. By deciding which blockchains to support, what fee structures to impose, and how transactions should be settled, the marketplace operator can create an environment of vendor lock-in. Developers, users and solvers may struggle to introduce new assets, adopt alternate proof systems, or switch to competing platforms after they have invested in a specific marketplace's requirements.

3.3 An Unresolved Fundamental Conflict

All of today's integration patterns seek to harness the power of network effects in the off-chain agent ecosystem. The logic is compelling: each new agent that joins the network - whether a solver, liquidity provider, or marketplace operator - should enhance the overall value for everyone. Additional agents bring more liquidity, expanded functionality, and increased innovation potential. In theory, this positive feedback loop should create ever-stronger networks as more participants join.

However, this same diversity that should strengthen the network paradoxically leads to fragmentation. Each agent introduces its own unique requirements - different blockchain integrations, asset types, settlement procedures, and trust models. This complexity compounds with every new addition. Application-driven models become isolated within their own ecosystem boundaries. Solver networks restrict themselves to narrow use cases to maintain manageability. Shared marketplaces impose rigid constraints to handle the growing complexity. What should be a unified network instead fractures into isolated segments.

A fundamental tension between network effects and integration complexity lies at the core of the industry's struggle to build a cohesive off-chain collaboration framework. The very diversity that makes the ecosystem valuable also makes it increasingly difficult to unify. As more participants join with different requirements and capabilities, the

challenge of coordinating them all grows exponentially. The result is a splintered landscape of partially overlapping agent networks, each serving a subset of the market but unable to effectively coordinate with others. In an environment where transactions might require any combination of chains, assets, or settlement processes, this fragmentation severely limits the potential of off-chain collaboration.

3.4 A Universal Platform for Agent Coordination

At its core, Khalani Arcadia recognizes that transaction supply chain optimization, blockchain interoperability, and off-chain agent collaboration all stem from the same underlying issue: how to seamlessly match and execute user requests across disparate networks. They are ultimately the same problem viewed from different angles. Each scenario involves the same fundamental challenge: how to connect who needs a service (a user, an app, a blockchain, an agent) with who can provide it, and enforce what conditions must be met to finalize the exchange.

By recognizing that all of these processes share a core logic - matching demand to supply under verifiable constraints - Khalani Arcadia sets out to solve them with a single, consistent framework rather than letting each chain, application, or agent network reinvent its own partially overlapping solutions.

Khalani Arcadia implements this vision through an intent-based coordination system that transforms blockchain-adjacent agent networks into intent-driven solver networks. This transformation works in both directions - not only can users express their desired outcomes through intents to source transaction counterparties, but agents as service providers themselves use intents to coordinate their capabilities and collaborate on service delivery.

1. **Users Publish Intents:** When a user wants a specific outcome—such as swapping tokens across chains or executing a multi-step transaction, they issue an intent outlining the desired goal and the constraints. Off-chain solvers then compete or collaborate to fulfill this request, handling everything from bridging and liquidity aggregation to final settlement.

2. **Off-Chain Agents Publish Service-Oriented Intents:** Solvers, oracles, co-processors, and even AI agents can also declare their own long-running intents, signaling availability and service conditions for ongoing operations. These agents can simultaneously issue short-lived intents to source collaborators, to secure additional liquidity or source proof delivery. By unifying their service offers and collaboration requests under a shared intent framework, off-chain agents form resilient, peer-to-peer networks rather than isolated, single-purpose

clusters.

3. **On-Chain Settlement & Verifiable Commitments:** All intents, along with their settlement logic, resolve on-chain, ensuring every participant operates under auditable and enforceable rules. Whether a solver is filling a user's request or collaborating with another agent, final execution must meet the defined on-chain requirements. This model not only minimizes trust in individual service providers, but also guarantees that user constraints and system invariants are upheld, and facilitates permissionless coordination for all participants.

Unlike app-specific networks, supply driven interfaces, or rigid shared marketplaces, Khalani Arcadia employs intent-based coordination, allowing any agent, be it a solver, oracle price provider, AI-driven service, or marketplace operator themselves, to operate under a single, flexible framework. This approach transcends siloed solutions by ensuring every participant can plug in and collaborate without reinventing off-chain infrastructure.

4. The Arcadia Intents Protocol

Khalani's Arcadia Intents Protocol (AIP) is a set of protocols built on top of Khalani first production mainnet for general intents processing and collaborative solving.

The Arcadia Intents Protocol has five major subsystems:

- The Intents Publishing & Resolution System (the "Intents System" for short)
- The Multichain Pub/Sub (Publish/Subscribe) Event System (the "Pub/Sub System" for short)
- The Multichain Proof, Commitment and Settlement Systems
- The Solving System
- Market Structure and Alignment

4.1 The Intents System

At the foundation of Khalani's architecture lies the concept of intents - signed expressions of desired outcomes that serve as the transaction primitive. Unlike traditional blockchain transactions that specify exact execution paths, intents describe what users want to achieve while leaving the implementation details to specialized solvers.

- **Settlement centric transaction expressions**: in most blockchain systems, a transaction is primarily a payload instructing on-chain code. With Khalani's intents, the priority is on final settlement and verifiable conditions (e.g., bridging tokens, swapping assets, or triggering a multi-step action), rather than just invoking a single on-chain function.
- **Proof Obligations**: Each intent states what must be proven for the outcome to be valid. This can include cryptographic attestations, bridging confirmations, or off-chain computations provable on-chain submitted by a solver network.

Khalani supports two types of intents.

- **One-time intents represent discrete settlement requests** - for example, a user wanting to swap tokens across chains under specific conditions. These intents have clear success criteria and go away once fulfilled or cancelled.
- **Long-running intents, also known as automatons**, maintain persistent settlement conditions over time. These might represent ongoing market making activities, liquidity provision, or other continuous services.

Technically, single-step intents are transaction primitives, messages signed by the service consumer, while automatons function as on-chain programs. Unlike typical blockchain transactions and contracts, AIP treats these intents as verification-centric primitives, enabling both parties to specify under what conditions an on-chain value exchange (i.e., settlement) can occur from their respective points of view.

The Intents System is responsible for managing the lifecycle of all intents. Intents implement an abstraction we call "Asset-Bearing Automata" and act as *transient accounts*, which are restricted accounts that spend their assets according to conditions set by their creator. To implement this automata abstraction, the state machine driving each intent is managed within the Intent Book, which is a global singleton storing all intents.

The power of this intent system comes from its expressiveness. Intents can encode complex settlement requirements, trust assumptions, and execution constraints while remaining flexible enough for solvers to optimize implementation. This creates a framework where both service consumers and providers can precisely specify what they want while leaving room for efficient, competitive execution.

4.2 The Pub/Sub Event System

The pub/sub event system implements on-chain pub/sub across *multiple chains*. It allows solvers to track, subscribe, and respond to custom event or state changes on any blockchain to orchestrate seamless proof-based multi-chain workflows.

The pub/sub system has three layers to it:

- **Provers & Verifiers**: pluggable cross-chain trust vendors that generate and validate proofs.
- **Handler & Publisher:** singleton contracts (per chain) that serve as endpoints for the multichain event bus.
- **Processor & Producer:** app or solver-specific pub/sub logic that defines how events are consumed and how new events are published.

This shared approach spares developers from having to build, and solvers from having to integrate a bespoke off-chain indexing and scanning infrastructure. By offering a multi-chain event system, AIP's pub/sub system lets solvers simply subscribe to relevant event types, substantially simplifying onboarding and reducing both complexity and development overhead.

4.3 Proof, Commitment and Settlement Systems

Khalani Arcadia's architecture is designed to connect with external blockchains, data sources, and domains through commitment and settlement providers with a pluggable proof model.

By defining how off-chain or cross-chain commitments and settlement events can be verified on-chain, proof providers serve as the crucial link between AIP's intent-driven framework and the broader multi-chain ecosystem.

- **Bridging External Domains**: Whether bridging tokens from a different blockchain, validating data from a website, or confirming a desired outcome, Khalani relies on proof providers to attest that certain conditions have been met off-chain. These providers submit cryptographic evidence or attestations, ranging from zero-knowledge proofs to light-client verifications or multi-signature attestations, that an off-chain event occurred as claimed.
- **Pluggable Trust Models:** Rather than prescribing a single trust assumption, Khalani supports a flexible "any trust model" approach. Proof Providers can be, but not limited to zero knowledge provers, oracle services, light-client based proofs, multi-signature committees, and optimistic mechanisms.
- **Commitment & Settlement Providers:** Commitment and settlement can both be built as services in collaboration with proof providers. For example, a commitment provider can rely on a proof provider to attest a deposit event happened to a specific contract that they control on a specific chain, and imbue richer semantics to transform that confirmation of an event into an endorsement on a credible commitment as economic primitive to be used in intent-based

markets on Khalani Arcadia. Similarly, settlement providers can be built on top of proof providers to attest and certify settlement outcomes on external blockchains. Settlement proof can then be composed into intent expressions as settlement conditions between intent owners and service providers.

4.4 The Solving System

Solvers are off-chain agents programmed to generate solutions to fulfill user-defined intents via on-chain settlement. Unlike deterministic on-chain programs, solvers operate off-chain, autonomously determining *how* to meet an intent's requirements before finalizing transactions on-chain, provided they meet all specified constraints.

- **Event-Driven and Reactive:**Solvers subscribe to on-chain events, such as newly created intents, and respond with locally defined algorithms. Their off-chain logic can range from AI-powered routing to specialized liquidity strategies, all executed independently before on-chain settlement.
- **State Machines with Constrained Outcome**: While solvers can employ sophisticated off-chain computations, the final on-chain result must conform to the proof obligations outlined in the user's intent (e.g., specific price, time limits, or additional conditions). This balance of off-chain flexibility and on-chain verifiability promotes innovation without compromising the trust guarantees of decentralized infrastructure.
- **From Single Solver to Solver Networks**: Instead of relying on a lone solver, Khalani Arcadia supports peer-to-peer solver networks, where multiple solvers receive on-chain incentives or fees for meeting intents. This model provides stronger liveness - if one solver fails or goes offline, others can step in and contribute solutions.

The goal of solvers in Khalani Arcadia is to trigger as many automata to take steps according to their state transition function as possible. Since these state transitions are associated with a particular set of conditions, the primary activity of solvers is to find and match compatible intents that can mutually satisfy each other, thus triggering state changes. Sometimes, the conditions include constraints about events that have occurred either on Arcadia or another chain (events are explained in the below section on the Pub/Sub System). In this case, solvers and more use-case specific agents may perform extra-protocol actions elsewhere, at which point they can present a proof that some event has occurred as a means to trigger a new state transition on a particular intent.

4.5 Market Structure and Alignment

Within the Arcadia Intents Protocol (AIP), market participants can fine-tune their market interactions by leveraging aligned agents, off-chain services or programs that implement specific rules, preferences, and optimizations on behalf of users or liquidity providers. This “alignment” can be baked directly into the agent’s logic or introduced dynamically at runtime as services.

- **Refinement**: Refinement agents provide a real-time view of market conditions and help external agents adjust or “refine” their expressed intents. By suggesting improvements - such as tighter price parameters - refinement agents can facilitate better fills while maintaining the original structure of the intent.

- **Optimization:** While refinement focuses on aligning user intents with current market conditions, optimization agents cater to user-defined strategies for how solutions should be executed. For instance, a solver who also provides liquidity may choose to route trades through its own pools, capturing additional fees in the process.

By functioning as aligned partial solvers, optimization agents can perform various services - implementing custom routing rules, enforcing policy constraints, or even returning MEV to the user - according to each participant’s strategic preferences.

5. Composability, Interoperability and Automation

Khalani’s Arcadia Intents Protocol (AIP) provides a general counterparty-based interaction model that allows any off-chain agents to freely join, define, and settle commitments. Thanks to its pluggable proof system, commitments and settlements can originate from, or execute in any domain, making Khalani Arcadia adaptable to diverse coordination challenges.

What makes Khalani Arcadia a generalized coordination platform stems from three core principles: composability, interoperability, and event-driven automation. Together, these principles empower a single, verifiable framework where multi-chain tasks can be composed, cross-domain logic can interoperate, and real-time workflows can be automated.

5.1 Composability

Khalani Arcadia's intent model provides settlement-centric commitments that can be extended or combined into more advanced commitments. Developers can layer additional constraints or compose multiple intents to form complex outcome expressions, while preserving full on-chain verifiability.

- **Composable Intent Expressions:** at the intent layer, composability is enabled through constraint expressions, allowing complex intents to be built from simpler components. At the solving layer, asynchronous pub/sub mechanisms enable solvers to compose partial solutions efficiently.
- **Asynchronous Collaborative Solving:** on the solving side, through Khalani Arcadia's pub/sub architecture, solvers can offer partial solutions for particular intents and collaborate with additional solvers, liquidity providers or cross-chain relayers to fill in the remaining steps. This system of incremental problem-solving not only reduces complexity for individual solvers, but also encourages specialization - solvers can focus on the tasks they do best, then hand off or request other services as needed.
- **Atomic On-chain Settlement:** underpinning composability is the Khalani blockchain's ability to settle transactions atomically to ensure that intents are never double-solved and solutions can never double-fill. On-chain verification of constraints means no single off-chain participant can undermine the process, reinforcing decentralized trust guarantees.

But composability alone does not guarantee synergy across different networks or standards. Interoperability is essential for connecting these intent-based workflows to a truly multi-chain environment.

5.2 Interoperability

Khalani Arcadia introduces an inversion of control for multi-chain or multi-standard applications. Instead of requiring each chain or app to implement bridging, aggregation or integration standards, permissionless agents define and wrap external infrastructure or settlement conditions as proof obligations - essentially reversing the traditional approach, where every application or chain must build custom connections, and each agent network must implement them.

By modeling cross-domain operations as intents, Khalani Arcadia effectively transforms the interoperability problem into a generalized intent-solving problem. Users can issue cross-chain requests without worrying about bridging or trust models, because solvers intermediate behind the scenes.

Once tasks can be composed and orchestrated across multiple domains, the final piece is automation, enabling real-time event-driven workflows to run with minimal human intervention.

5.3 Automation

Beyond cross-domain abstraction, Khalani Arcadia offers event-driven automation, enabling agents to subscribe to and react to on-chain events immediately. This ties composability and interoperability into a self-orchestrating ecosystem:

- **Segmented Workflow Orchestration**: High-level agents can interpret broad intents - like “bridge and swap tokens across two chains”, and break them down into multiple segments for specialized agents to tackle.
- **Dynamic Adjustments**: Service provider agents can monitor data feeds (e.g., gas prices, bridging costs) and update their published fees or strategies automatically.
- **Adaptive Liquidity**: Liquidity providers can react to real-time clearing prices and adjust their offers accordingly.
- **AI-Driven Optimization**: AI agents can continuously evaluate bridging routes and multi-chain pools, publishing updated service intents or partial solutions to optimize cost or reduce MEV.

By automating how off-chain services detect and respond to events, Khalani Arcadia minimizes manual oversight. Every agent - human-driven, specialized, or AI-powered - can proactively collaborate and finalize transactions under verifiable constraints.

5.4 Bringing it All Together

By uniting composability, interoperability, and event-driven automation under one intent-driven model, Khalani Arcadia provides a generalized service coordination framework. The open, programmable design removes fragmentation across chains and trust assumptions, while automation ensures tasks and workflows execute seamlessly in real time. Together, these elements turn multi-chain complexity into a single, unified environment where participants - from apps and solvers to off-chain services and AI agents, can easily collaborate and innovate without the usual overhead of building bespoke integrations or re-implementing complex logic.

6. A Service Provider Marketplace and Home of SolverFi

Khalani Arcadia creates a single, unified marketplace where all off-chain service providers can plug in, collaborate on-chain and provide services to demand coming from anywhere.

- **For service consumers**, the marketplace is not just a collection of providers but a runtime aggregator that optimizes multiple services in the context of service requests as intents.
- **For service providers**, the marketplace aggregates demand and automates collaboration with other providers, unlocking new profit opportunities.
- **For developers**, the platform serves as a single point of integration, eliminating the need for pairwise integrations between service consumers and providers. It allows all participants to express and deploy intents, define integrations, and seamlessly interact with each other.

Developers can leverage this marketplace to innovate and build new services as intent-driven networks. These services can outsource execution, be chain-abstracted, and driven entirely by intents, without the burden of infrastructure concerns. Most importantly, they can collaborate with other market participants without compromising their own market structure: each network can define their own approach to refinements for real-time intent improvement, optimization for maximizing economic value, and alignment for partial-directed solving and preference enforcement.

6.1 SolverFi: The Next Wave of Collaborative Finance

Within this marketplace emerges a new wave of financial primitives that directly serve collaborative, intent-driven networks. Built as liquidity-focused, on-chain automatons, these primitives emphasize settlement and preference enforcement while delegating pricing, delivery, and spoke chain integrations to specialized solver networks. They are multi-chain native from day one, globally optimized rather than siloed, and built entirely as peer-to-peer protocols.

We call this movement SolverFi, an off-chain centric, AI-native evolution of DeFi that focuses on enforcing invariants and preferences as abstract strategies, offloading all data collection, pricing, decision-making, and specialized integrations to off-chain logic. Some examples include:

- abstract trading *strategies*
- abstract yield optimization *strategies*
- abstract arbitraging *strategies*
- abstract stablecoin pegging *strategies*
- abstract yield liquidation *strategies*

- abstract borrow/lend risk & interest rate *strategies*
- abstract market making *strategies*

They can be integrated across multiple applications on multiple blockchains, powered by aligned off-chain agent networks, to form intent-driven DeFi solutions:

- multichain trading networks
- multichain yield optimization networks
- multichain arbitrager networks
- multichain stablecoins
- multichain liquidation networks
- multichain borrow/lend networks
- multichain market maker networks

They can also serve as on-chain liquidity primitives for specialized solver networks, alleviating liquidity concerns for operating solvers and allowing them to focus on what they do best.

6.2 A Unified On-chain and Off-chain Future

By integrating these primitives into the broader Khalani Arcadia marketplace, every participant, whether consumer, provider, or developer, benefits from an intent-based ecosystem that seamlessly merges on-chain settlement with off-chain collaboration. Liquidity flows where its most needed, specialized solvers deliver custom strategies, and chain-abstracted networks meet global demand. In doing so, Khalani Arcadia facilitates a new generation of collaborative finance, bridging the gap between decentralized infrastructures and sophisticated off-chain capabilities to foster a more efficient, adaptive, and widely accessible multi-chain ecosystem.