

# Arinas Platform

## Tree-Based Dynamic Runtime Framework for Visible, Maintainable Enterprise Architecture

### Overview

Arinas is a development and dynamic runtime platform that makes software architecture executable, eliminating the gap between how you design a system and how it runs. Architecture is the program — not a model of it, not a diagram beside it, but the running system itself. Authored by Ľudovít Lučenič and developed and maintained by Digital Orchestra, s.r.o. (Slovakia) since 2014.

With approximately 18,500 lines of production-grade code and proven in over 6 years of regulated FinTech production (securities trader system operational until 2025), it enables rapid development of complex, maintainable systems through radical visibility of software architecture in a unique tree-structured paradigm.

Arinas Platform  
A visible architecture made easy with 



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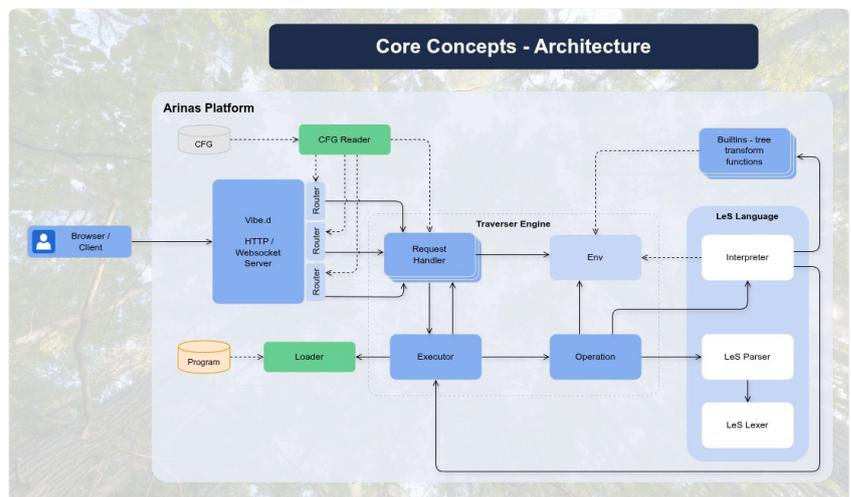
Digital Orchestra, s.r.o.  
Simple things fast. Complex things simple.

Featured at DConf '25 (London)

### Core Paradigm

Arinas organizes software architecture as visible, hierarchical tree structures – enabling radical clarity and long-term maintainability.

- ✓ **Programs as acyclic directed graphs** of module instances (tree patterns).
- ✓ **Dynamic runtime orchestration** via tree traverser engine (non-static flow control).
- ✓ **LeS DSL** (tree-manipulation language) interprets operations, enabling runtime modifications without redeployment.
- ✓ **Builtin calls** provide seamless interfaces to host tech stack and context management.
- ✓ Modules support **object-oriented parent-child hierarchy + pattern-subpattern guardrails**.
- ✓ **Orthogonal composition** across architectural layers ensures clean interfaces and managed refactoring.



## Key Advantages & Benefits

- ✓ **Radical architectural visibility** in complex, layered domains – enabling clear top-down and bottom-up design.
- ✓ **Clean interfaces** for seamless module replacement or reimplementaion.
- ✓ **Managed refactoring and entropy control** for long-term system evolution without quality loss.
- ✓ **Higher abstraction span** – empowering individual developers to handle broader domains efficiently.
- ✓ **Production-proven reliability**: Over 6 years in regulated FinTech with zero-downtime runtime changes.
- ✓ **Ideal for modern multi-stack environments** and AI-assisted development (e.g., RAG integration).
- ✓ **Rapid prototyping, maintenance, and upgrades** with reduced development cycles.
- ✓ **Highly effective alternative** to traditional component composition and testing approaches.

## Roadmap

- ✓ **Production-proven** core stable; active development of multi-stack proof-of-concept ports.
- ✓ **Ongoing (H1/2026)**: Kotlin/Spring Boot (started), planned ports to Java, .NET/C#, Node.js/TypeScript, Go, Rust, and AI frameworks (LangChain).
- ✓ **Future (2026+)**: Debugger, managed refactoring, LeS-to-native compilation, polyglot enablement, cloud-native support, open-source hybrid model.
- ✓ **Goal**: Open-source hybrid model with public repositories, community adoption, and premium extensions/consulting.

## Technical Highlights

- ✓ **Tree-based** program representation with hierarchical I/O data.
- ✓ **Architecture-driven** dynamic traversal.
- ✓ **Independent LeS interpreter** with builtin control transfer to host language.
- ✓ Supports **hot swap** runtime changes.
- ✓ **Tree manipulation** via custom LeS language (high expressiveness for data processing).
- ✓ **Configurable loaders** (Program/CFG) and executor.
- ✓ **Adaptable IDE** (self-hosted Arinas application) and online LeS editor.
- ✓ Current primary stack: **D language** + **vibe.d** framework.

## Use Cases

- ✓ **Securities firm IS** (web / mobile / backoffice / trading / admin: Onsen UI / w2ui / PostgreSQL).
- ✓ **Forex trading** real-time critical replication; **Cryptocurrency** portfolio; **Community finance system**.

## Additional Sources

- ✓ Documentation at [arinas.org](https://arinas.org)
- ✓ Presentation details at [DConf '25](#)
- ✓ Arinas platform [source code](#)

## Contact

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**Interested in collaboration or architecture discussions?** Connect on **LinkedIn**, drop an **e-mail** or visit **Arinas.org**.