

PRODUCT REQUIREMENTS DOCUMENT (PRD) — Phase 1 Rule-Based Lead Routing System

Updated: 2025-12-19

1. Executive Summary

Phase 1 delivers a deterministic, explainable, rule-based decision-support system that recommends the best agent for each lead using Monday.com data. No ML, no NLP, no telephony. Single organization only.

2. Goals & Non-Goals

Goals: improve lead-agent matching via explicit rules; reduce manual routing; ensure explainability + auditability; keep manager control. Non-goals: ML/NLP, telephony, autonomous hidden routing, multi-org.

3. Scope & Constraints

Single org; Monday.com only data source; modular monolith; deterministic weighted rules; explainability required; all actions logged.

4. High-Level Architecture

Modules: Monday Integration, Ingestion, Field Mapping Wizard, Internal Schema Registry, Agent Profiling, Rule Engine, Scoring, Explainability, Decision Engine, Audit & Logging, Dashboard, Security.

5. Monday.com Integration

System must fetch board/column metadata (for tree picker) and items for normalization and computation via polling (minimum) and optionally webhooks.

6. Field Mapping Wizard (Mandatory Gate)

Admin/manager maps each internal field to a Monday column located in any board via full Board→Column tree. Stored mapping includes board_id + column_id. Validation: required + type compatibility + sample normalization. Routing locked until valid. Cross-board relational correctness is admin responsibility in Phase 1.

7. Internal Data Schema (Admin-Managed Fields)

Normalized entities: Lead, Agent, Deal. System seeds example Core fields, but admin can add custom fields and remove any fields including Core. Fields can be required/optional. All modules reference schema registry (no hard-coded fields).

8. Agent Profiling Engine

Derive deterministic metrics from normalized data (workload, conversion rate, average deal size, recent signals). Missing data must degrade gracefully with explicit reasons.

9. Rule Definition Model (Weights here)

Rules: condition → weight → explanation. Admin configures weights in Rule Engine UI. Rules are deterministic, stackable, explainable, versioned.

10. Rule Evaluation Engine

Evaluate rules for each lead across candidate agents; produce per-rule contributions and explanations.

11. Scoring Engine

Aggregate contributions; normalize scores (0–100); rank agents; handle ties deterministically.

12. Explainability Layer

Show per-rule contribution and ‘why selected / why not others’ for top candidates. Explainability is mandatory.

13. Decision Engine

Manual mode: manager approves/overrides. Optional auto mode: assign automatically above threshold (explicit config) and log all actions.

14. Override & Audit Logging

Audit logs store recommendation, final assignment, overrides, timestamps, actor identity, and diffs for config changes (mapping/schema/rules).

15. Dashboard Requirements

Manager Dashboard: lead queue, recommendations, explanations, approve/override. Admin: manage fields, mapping, rules, mode toggles, audit logs.

16. Security & Access Control

JWT authentication + role-based permissions. Admin actions protected. Logs immutable/append-only.

17. Completion Criteria

Integration stable; mapping validated; schema registry working; agent profiles correct; rules produce consistent scores; explainability present; manager workflow usable; overrides tracked.