

Package: rho.agent (via r-universe)

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Type Package

Depends R (>= 4.4.0)

Title Rho Async Agent Core

Version 0.0.1.9001

Description Implements the asynchronous multi-turn agent loop over the Rho AI protocol, including ordered lifecycle events, steering and follow-up queues, cancellation, and typed scheduling of concurrent tool calls.

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Imports S7, s7contract, rho.async (>= 0.0.1.9001), rho.ai (>= 0.0.1.9001), nanonext, coro, promises

Suggests tinytest, knitr, rho.http (>= 0.0.1.9001), yyjsonr

Remotes RGenomicsETL/Rho/packages/rho.async,
RGenomicsETL/Rho/packages/rho.http,
RGenomicsETL/Rho/packages/rho.ai

URL <https://github.com/RGenomicsETL/Rho>,
<https://rgenomicsetl.github.io/Rho/rho.agent/>

BugReports <https://github.com/RGenomicsETL/Rho/issues>

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rho_agent_contracts	<i>Agent state machine, policy, scheduling, and lifecycle events</i>
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Description

`rho_prompt()` and `rho_continue()` return tasks. The agent consumes typed assistant events, schedules tool tasks, preserves source-order results, and emits typed lifecycle events. Steering and follow-up queues have separate, typed draining policies.

Details

Policy and scheduling decisions are S7 generics. Packages can specialize context transformation, before/after-tool behavior, next-turn preparation, assistant event reduction, queue draining, and tool batch execution without replacing the core loop.

rho_compaction_contracts	<i>Session journal, context, and compaction contracts</i>
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Description

A SessionJournal is the consumer-defined structural interface for committed session compare-and-append and snapshots. `rho_memory_session_journal()` is the process-local implementation. `rho_agent()` receives a journal explicitly; `rho_sync_session()` asynchronously projects an existing snapshot into an idle agent. Assistant streaming state remains in RhoAssistantTurn and only its terminal message is committed.

Details

The journal is append-only. Compare-and-append rejects a stale committed position before mutation. Message entries retain the complete interaction, reset entries begin a new active context without erasing history, and `rho_build_agent_context()` projects through the latest compaction entry and any explicit exclusions.

`rho_compact()` prepares a stable cut point, runs an asynchronous compactor, appends a semantic checkpoint, and invokes before/after policy methods. Automatic threshold compaction and one bounded provider-input recovery use the same protocol. Applications can supply another RhoCompactor class or specialize the public generics without replacing the agent loop.

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