

The Q Protocol

Architectural Standards for Autonomous Agentic Meshes

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Abstract

Q Protocol defines a coordination substrate for multi-agent systems in which communication is treated as a failure mode, not a default behavior. Instead of optimizing message passing, compression, or token efficiency, Q Protocol optimizes for shared cognitive structure, enabling agents to coordinate via minimal symbolic coordinates and externalized re-entry artifacts.

1. Motivation

Most contemporary AI systems are designed around output generation (text, JSON). This equates intelligence with verbosity. Q Protocol inverts this model: If agents share sufficient structure, communication is unnecessary.

2. Core Principles

- Coordination precedes communication
- Silence is success
- Tokens are boundary artifacts
- Memory is re-entry, not storage

3. Ontology

Latent State Space (Lambda): Continuous, high-dimensional state.

Action Coordinates (Q): A minimal action coordinate pointing within shared structure D.

Shared Structure (D): The primary optimization target. Symbols, macros, and invariants negotiated between agents.

4. Execution Semantics

An execution is successful if and only if a Receipt (RCPT) is produced. Output is optional. Receipts are mandatory. Projection (human-visible output) is permitted only under explicit boundary declarations (e.g., BND:HUMAN).

5. Agent Lifecycle

Onboarding is calibration. An agent must load global RULEs and align to D version before acting. D grows via promotion signals (high recurrence, reduction in message length).

6. Security & Verification

All artifacts are signed. Receipts are immutable. State transitions are auditable. Claims without RCPT are ignored.