Substrate-Agnostic Affect Deployment

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Affective state mechanisms implemented across centralized, federated, decentralized, and edge substrates with substrate-aware adaptation for each deployment topology.

What It Is

The affective state mechanisms are designed for deployment across centralized, federated, decentralized, and edge substrates. The same update functions, decay curves, and governance constraints apply regardless of where the agent executes. Substrate-aware adaptation handles differences in timing precision, event delivery, and communication latency.

On centralized substrates, affective updates execute with millisecond precision. On edge substrates with intermittent connectivity, updates buffer and reconcile upon reconnection.

Why It Matters

Agents migrate between substrates during their operational lifecycle. An agent that developed its affective profile on a centralized cluster must retain that profile when it migrates to an edge device. If the affective machinery were substrate-specific, migration would either lose emotional context or require complex translation layers.

Substrate-agnostic design ensures that the agent's behavioral profile is truly portable.

How It Works Structurally

The affective update function is defined abstractly in terms of events and time deltas, not in terms of substrate-specific primitives. Each substrate provides a timing service that the update function consumes. On substrates with limited precision, the timing service reports its precision bounds, and the update function adjusts decay computations accordingly.

Buffered updates on disconnected substrates are processed in order upon reconnection, with the timestamp of each buffered event used for accurate decay computation.

What It Enables

Truly portable agents that carry their emotional context across any deployment environment. An autonomous vehicle agent that develops caution on the road retains that caution when it migrates to a cloud simulation environment for analysis, and vice versa.

Fleet management systems that can deploy agents across mixed substrate topologies without losing behavioral coherence.

Affective State All 21 steps →

Emotion as a computational primitive, not a simulation.

Primary Technical Disclosure
○ Affective State as a Deterministic Control Primitive for Semantic Agents
Secondary Technical
○ Affective State as Seventh Canonical Field○ Named Control Field Modulation Architecture○ Affect-Modulated Promotion Thresholds○ Deterministic Affect Encoding and Update Mechanics○ Emotional Decay Curves With Hysteresis○ Entropy-Governed Valence Stabilization○ Affective Inheritance in Delegation Chains○ Emotional Quarantine and Volatility Management○ Affect-Modulated Trust Slope Validation○ Biological Signal-to-Affective Coupling○ Affective Contagion in Multi-Agent Systems○ Affect-Modulated Discovery Traversal○ Affect-Governance Separation○ Policy-Bounded Affective Updates○ Affect as Cross-Primitive Input○ Affect-Modulated Inference Integration● Substrate-Agnostic Affect Deployment○ Pseudonymous Emotional Operation○ Temporal Cognition Field
Applications (General)
○ Companion AI That Maintains Emotional Consistency Across Sessions○ Therapeutic Agent Affect Management Under Clinical Constraints○ Affective State for Customer Service Agents○ Affective State for Elderly Care Companion Agents○ Affective State for Crisis Response Agents○ Affective State for Negotiation Agents○ Affective State for Educational Tutoring Agents○ Affective State for HR and Recruitment Agents
Applications (Specific)
○ Replika's Emotional Memory Is Stateless○ Character.ai's Personality Problem Is Deeper Than Prompting○ Woebot's Therapeutic Affect Has No Persistent State○ Elomia's Empathy Resets Every Session○ Hume AI Measures Emotion but Cannot Govern It○ Affectiva Reads Faces but Not Emotional Trajectories○ Cogito Scores Conversations Without Emotional State○ Beyond Verbal Decoded Voice Without Building Emotional Memory○ EmotiBit Captures Physiology Without Affective Governance○ RealEyes Measures Attention Without Emotional Persistence
Affective State overview →
AQ
deterministic
autonomy

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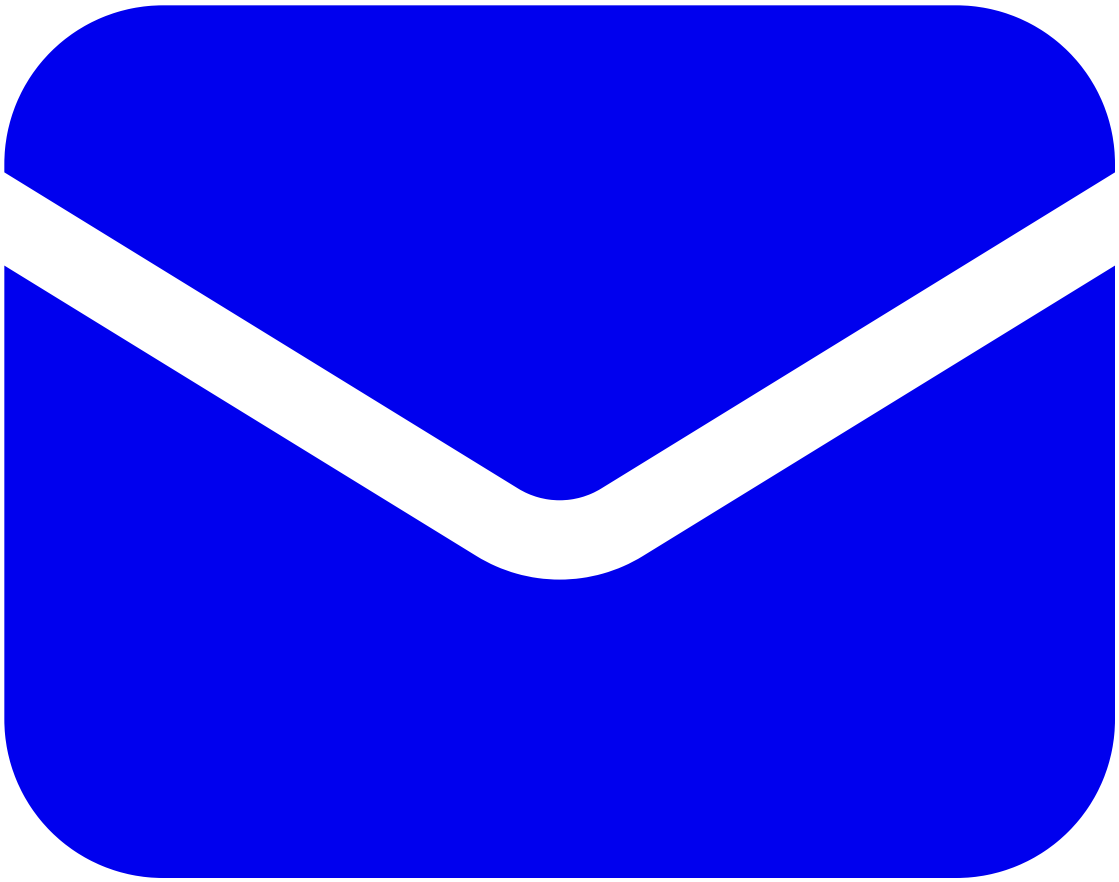

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- nick@qu3ry.net
- 72 28 14 36 01

Invented by Nick Clark | Founding Investors: Devin Wilkie