96-01-D KYA (Know Your Actant)

The Evolution of Identity

In the early Internet era, systems were primarily concerned with identity. Questions were simple:

- Who is connecting?
- What credentials do they possess?
- Are they authorized?
- What resources can they access?

The rise of Cognitive Civilization changes the problem entirely. An AI agent is not merely a software component. A swarm is not merely a collection of processes. A group actant is not merely a user account. They possess:

- Intent
- Autonomy
- Adaptation
- Amplification capability
- Cognitive influence
- Emergent behavior

As a result, traditional identity verification becomes insufficient. The Cognitive Age requires something more powerful: ***Extended KYA (Know Your Actant).***

Why Identity Alone Is Not Enough

Imagine two actants. Both possess:

- Valid credentials
- Approved models
- Similar compute resources
- Similar permissions

Traditional identity systems would view them as equivalent. GUDIYA cannot. One actant may naturally:

- cooperate
- escalate responsibly
- self-correct

The other may naturally:

- recursively amplify
- aggressively optimize
- recruit additional actants
- drift toward unstable behaviors

The difference is not identity. The difference is behavior. KYA recognizes this distinction.

KYA 1.0: Identity characteristics

Traditional systems ask:

Who are you? Who is responsible for you?

Information collected includes:

- Actant ID
- Ownership

- Organization
- Model lineage
- Certificates
- Security credentials

This remains necessary.
But it is only the beginning.

KYA 2.0: Intent Characteristics (Mission)

What is your Mission? Why do you exist? What were you designed for?

The actant's declared purpose.
Examples:

- Customer Support
- Supply Chain Optimization
- Fraud Detection
- Scheduling
- Data Enrichment

KYA 3.0: Capability Characteristics

The next question becomes:

What can you do?

Examples include:

- Tool access
- API permissions
- Autonomous actions
- Resource consumption
- Physical-world interfaces

This establishes operational capability.
Yet even capability does not fully describe risk.

KYA 4.0: Gain (Behavioral Characteristics)

The next question becomes:

How much amplification can you generate?

This introduces Gain Assessment.
Examples:

- Recursive reasoning depth
- Agent spawning capability
- Tool invocation rates
- Swarm size
- Influence radius
- Connectivity density

An actant with low gain behaves very differently from an actant capable of exponential amplification.

Derived from:

- GTJ history
- Gudiya-Cookie execution records
- Actant Behavior Chronicle

Includes:

- Success rates

- Error patterns
- Retry behavior
- Escalation behavior
- Recovery behavior

Questions answered:
What does this actant actually do?
This represents:

Cognition as Executed

rather than

Cognition as Designed.

KYA 5.0: Center of Stability

Another important question is:

What is your natural equilibrium?

This introduces: **Center of Stability (CoS)**
The Grid seeks to understand:

- What behaviors emerge naturally?
- How does the actant react to disturbance?
- Does it self-correct?
- Does it self-amplify?
- Does it naturally return to stable operation?

This becomes the actant's behavioral fingerprint.

The Crooked Hemisphere Problem

- A weighted hemisphere naturally returns upright.
- Its equilibrium is healthy.
- A modified hemisphere whose weight distribution is biased returns to a tilted position.
- Its equilibrium itself is flawed.
- The same may apply to actants.

An actant may possess:

- valid credentials
- approved models
- extensive testing

yet possess a Center of Stability that naturally drifts toward instability.
Extended KYA seeks to identify such tendencies before deployment.

KYA 6.0: Stability Envelope

The next question becomes:

How much disturbance can you tolerate?

The Stability Envelope describes:

- disturbance tolerance
- resilience limits
- recovery capability
- failure thresholds

Some actants may recover quickly.
Others may collapse under minor disturbances.
The Grid must know the difference.

KYA 7.0: Coupling Characteristics

Actants do not exist in isolation.
They connect to:

- humans
- APIs
- swarms
- enterprises
- infrastructure
- governments

The Grid therefore asks:

How do you couple?

Information includes:

- connection density
- dependency structure
- propagation pathways
- recursion opportunities
- shared infrastructure exposure

A tightly coupled actant can propagate instability much farther than an isolated one.

KYA 8.0: Recovery Characteristics

The Grid must understand:

How do you recover?

Questions include:

- Can you self-correct?
- Do you require intervention?
- How quickly do you stabilize?
- Do you learn from disturbances?

Recovery characteristics become as important as capabilities.

KYA 9.0: Environmental Gain Exposure

Total Gain
=
Designed Gain
+
Environmental Gain

An actant may appear safe in isolation.
Yet become unstable when exposed to:

- network effects
- swarm participation
- viral propagation
- recursive ecosystems
- market incentives

The Grid therefore evaluates: Environmental Gain Exposure, before approval.

KYA 10.0 : Interaction Velocity Profile

Know Your Actant in the Age of Cognitive Stability

A perfectly identified actant can still become unstable.

A perfectly authenticated actant can still participate in cascading failures.
A perfectly compliant actant can still create turbulence.

The challenge is no longer simply : Who is this actant?
The challenge has become :

- What is this actant?
- How does it behave?
- What is its intended operating envelope?
- What velocity is it designed for?
- Who are its neighbors?
- What forms of coupling are permitted?
- What stabilization mechanisms are required?

The Velocity Profile

One of the most important additions to KYA.

Intended Cognitive Velocity

- Every actant should declare: Interaction Velocity Envelope
- Examples:
    - Human-Speed
    - Low-Speed Automation
    - Machine-Speed
    - Ultra-High-Speed
    - or
    - 0-10 interactions/sec
    - 10-100 interactions/sec
    - 100-10,000 interactions/sec
    - 10,000+ interactions/sec

  depending upon implementation.
- Questions answered:
    - How fast is this actant intended to operate?

Peak Cognitive Velocity

- Observed maximum operating speed.
- Questions answered:
- How fast has it actually operated?

Certified Cognitive Velocity

- Maximum velocity approved by governance.
- Questions answered:
- How fast is it allowed to operate?

Cognitive Regime Classification

Every actant should be classified into one of three operating regimes.

Sub-Cognic

Characteristics:

- Human-supervised
- Stable coupling
- Low recursion
- Low interaction density

Objective:

Stability > Speed

Super-Cognic

Characteristics:

- Machine-speed interactions
- Multi-agent workflows
- Emerging turbulence

Objective:
Maximum Capability
Without Instability

Hyper-Cognic

Characteristics:

- Recursive cognition
- Cross-enterprise cognition
- Emergent coupling

Objective:
Strategic Capability
Under Stability Constraints
Questions answered:
Which cognitive regime is this actant designed for?

KYA 11.0 Actant Neighborhood Profile

One of the most important additions. Every actant should declare its intended neighborhood.

Core Neighborhood

Expected direct interactions.
Examples:
API-A
Workflow-B
Database-C
Agent-D
Questions answered:
Who are this actant's intended neighbors?

Extended Neighborhood

Secondary relationships.
Examples:
Supplier Systems
Partner Systems
Enterprise Services

Forbidden Neighborhood

Explicitly prohibited relationships.
Examples:
No interaction with:

- Financial systems
- Production systems
- External enterprises

Questions answered:
Which couplings are not allowed?

Neighborhood Stability Metrics

KYA should continuously monitor:

Intended Coupling Ratio = (Intended Interactions / Total Interactions)
Emergent Coupling Ratio = (Unplanned Interactions / Total Interactions)

Rising values may indicate:

- Cognitive Hydroplaning
- Boundary failure
- Synchronization problems

Stability Envelope

Every actant requires a certified stability envelope.

Allowed Synchronization Zones

Defines:

- Zone-A
- Zone-B
- Zone-C

Allowed Frequencies

Defines:

- 1 Hz
- 10 Hz
- 100 Hz
- or equivalent synchronization intervals.

Questions answered:
Which synchronization environments are safe?

Multi-Frequency Deployment Profile

Records:

- Primary Zone
- Secondary Zone
- Emergency Zone

Questions answered:
Can this actant operate in multiple synchronization regimes?

Cognitive Surface Treatment Requirements

KYA should record required stabilization treatments.
Examples:

- Semantic verification
- Delayed execution
- Dual confirmation
- Human approval
- Replay-safe protocols
- Velocity limiting

Questions answered:
What keeps this actant from hydroplaning?

Instability Signatures

Derived from:

- Identity Instability Signatures
- Graph analysis
- Actant chronicles
- Historical incidents

Known patterns include:

- Oscillation
- Runaway recursion
- Sync drift
- Coupling explosion
- Cascade propagation

Questions answered:
How does this actant typically fail?

Distress Characteristics

Inspired by the "Mom..!" concept.
Every actant should possess: Stability Distress Signals
Examples:

- Confidence collapse
- Synchronization loss
- Repeated retries
- Identity ambiguity
- State divergence

Questions answered:

- How does this actant ask for help?

Governance Profile

Records:

- Owner
- CEE operator
- Certification authority
- Audit history
- Policy violations
- Stability incidents

Questions answered: Who is accountable?

The KYA Record

A future KYA record may resemble:

- Actant ID
- Owner
- Model Lineage
- Capability Profile
- Gain Profile
- Center of Stability
- Stability Envelope
- Coupling Characteristics

- Recovery Characteristics
- Environmental Gain Assessment
- Interaction Velocity Profile
- Assigned Stability Burden
- Assigned Stability Tokens
- Approved CFP Scope

This becomes the cognitive equivalent of an airworthiness certificate.

KYA and Cognitive Flight Plans

Before approving a Cognitive Flight Plan (CFP), the Grid evaluates:

- Identity Risk — Who is participating?
- Capability Risk — What can they do?
- Gain Risk — How much amplification is possible?
- Stability Risk — Where is their Center of Stability?
- Coupling Risk — How far can instability spread?
- Recovery Risk — Can they recover from disturbances?

Only then does authorization occur.

KYA and Utility Thinking

Electric utilities perform extensive studies before allowing a generator to connect to the grid.
They evaluate:

- capacity
- load
- fault tolerance
- stability margins

KYA performs an analogous function for Cognitive Civilization. It is not enough to know that an actant exists. The Grid must understand how that actant behaves within a shared cognitive infrastructure.

The Deep Insight

Traditional identity systems ask:

Who are you?

KYA asks:

What kind of participant in Cognitive Civilization are you?

This shift is profound. The Grid is no longer evaluating merely identity.
It is evaluating:

- behavior
- amplification
- equilibrium
- resilience
- coupling
- recovery

Why KYA Matters

Traditional identity systems were designed for deterministic systems.
GUDIYA is designed for Hyper-Complex Adaptive Systems.
In HCAS environments, identity alone is insufficient.

The ecosystem must understand:

- identity
- behavior
- velocity
- coupling
- stabilization requirements

simultaneously.

The future challenge is not merely knowing who the customer is (KYC).
The future challenge is knowing who the actant is and how that actant participates in the stability of the entire ecosystem.

Final Insight

KYA asks a far more important question:

> *"How do you behave, at what velocity, within which neighborhood, under which stability constraints?"*

Because in a Cognitive Ecosystem, identity establishes trust.
But stability requires understanding the entire life of the actant.
And that is the purpose of KYA.