

117-295-D Super Intelligence Lifecycle

Human Control Supremacy

Agent and GUDIYA Grid Exchanges Across the Complete Undertaking

The GUDIYA lifecycle connects a human-authorized purpose to an accountable, observed and ultimately settled undertaking. It covers Intent-Group Approval, operational attachment through GSE-Lang, execution and rendezvous, continuing envelope management, and verified Gudiya-cookie settlement. The central requirement is continuity of authority, evidence and responsibility as the agent and its relationships change.

Super Intelligence is used here in SEI's broader program sense: the organized cognitive ecosystem and its infrastructure. The lifecycle is a proposed functional design, not a claim that every message, service or state transition has already been implemented. Numbered exchanges 01–50 preserve the sequence developed in our prior discussion; the tables explain each exchange and why CAS/HCAS framing matters.

How to read the sequence

Read each diagram downward. Horizontal arrows identify exchanges between functional roles; returning arrows on one lifeline represent internal decisions. Numbers are cross-references, not proof of a rigid global clock. Independent observations and control activities can overlap. Amber rows show alternative restriction or unresolved-status paths; blue rows show conditional intervention or reapproval. The diagrams use the numbered lifeline presentation of the supplied SSH illustration as visual inspiration.

CES means Complex Engineered System; CAS means Complex Adaptive System; HCAS means billions of actant in a CAS operating at machine speed. Engineered controls remain necessary in all three. CAS adds reassessment as behavior and coupling evolve. HCAS adds the requirement that relevant observations and effective controls fit within the remaining intervention window.

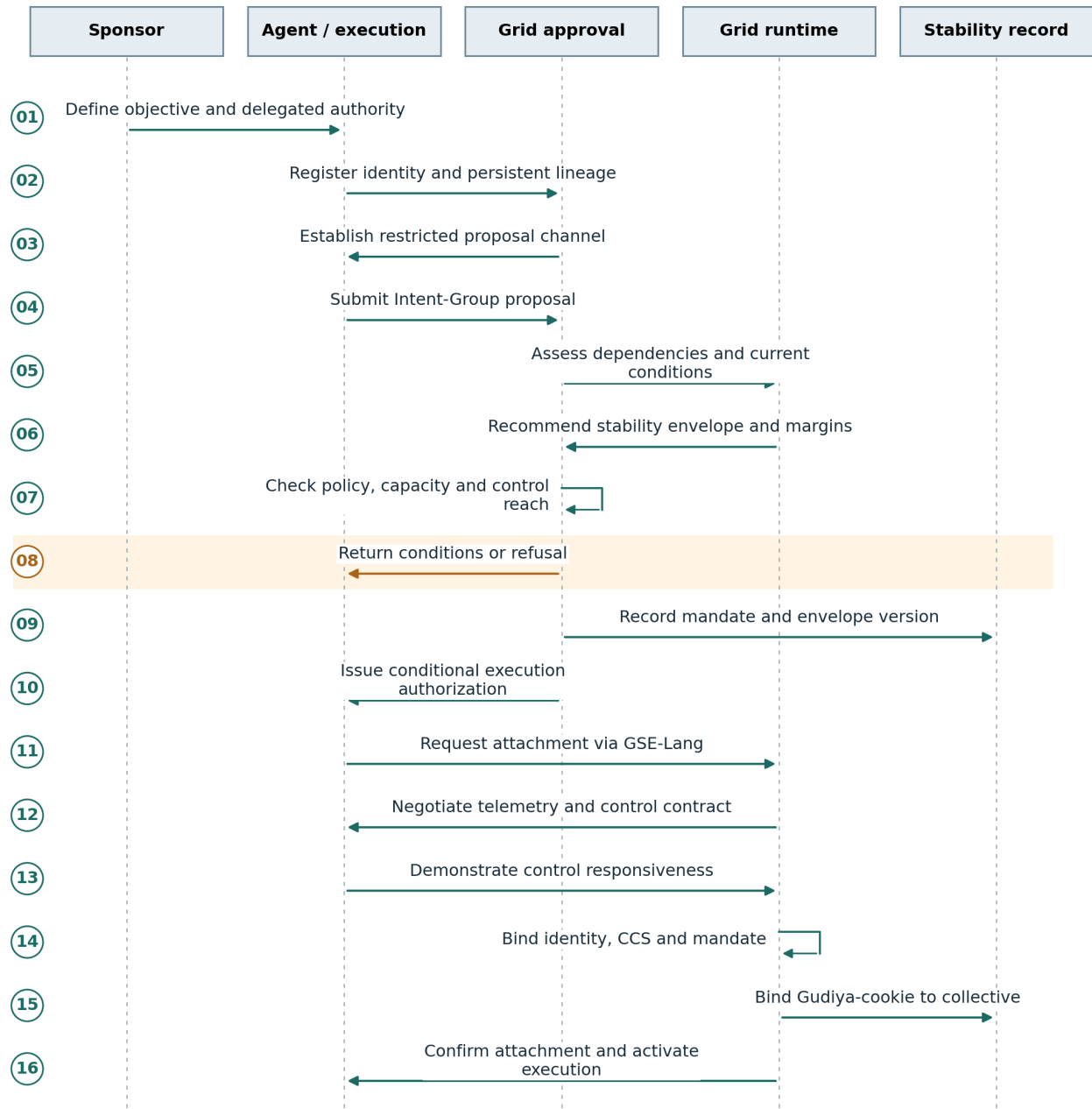
Approval and attachment are distinct

The approval exchange requires a restricted, authenticated registration channel before operational attachment. GSE-Lang may support onboarding as well as runtime exchanges. A mandate authorizes a proposed undertaking conditionally; actual execution starts only after attachment and control responsiveness are verified. Existing registered agents reuse valid identity records rather than receiving a new identity for every cookie.

What settlement closes

For this proposed lifecycle, a Gudiya-cookie identifies the authorized collective undertaking. Settlement closes that undertaking after its agreed criteria are met and remaining obligations are resolved or explicitly accepted by an accountable successor. Financial settlement, where applicable, is one part of this broader closure. Cookie settlement does not erase persistent actant identity, history or obligations transferred to another undertaking.

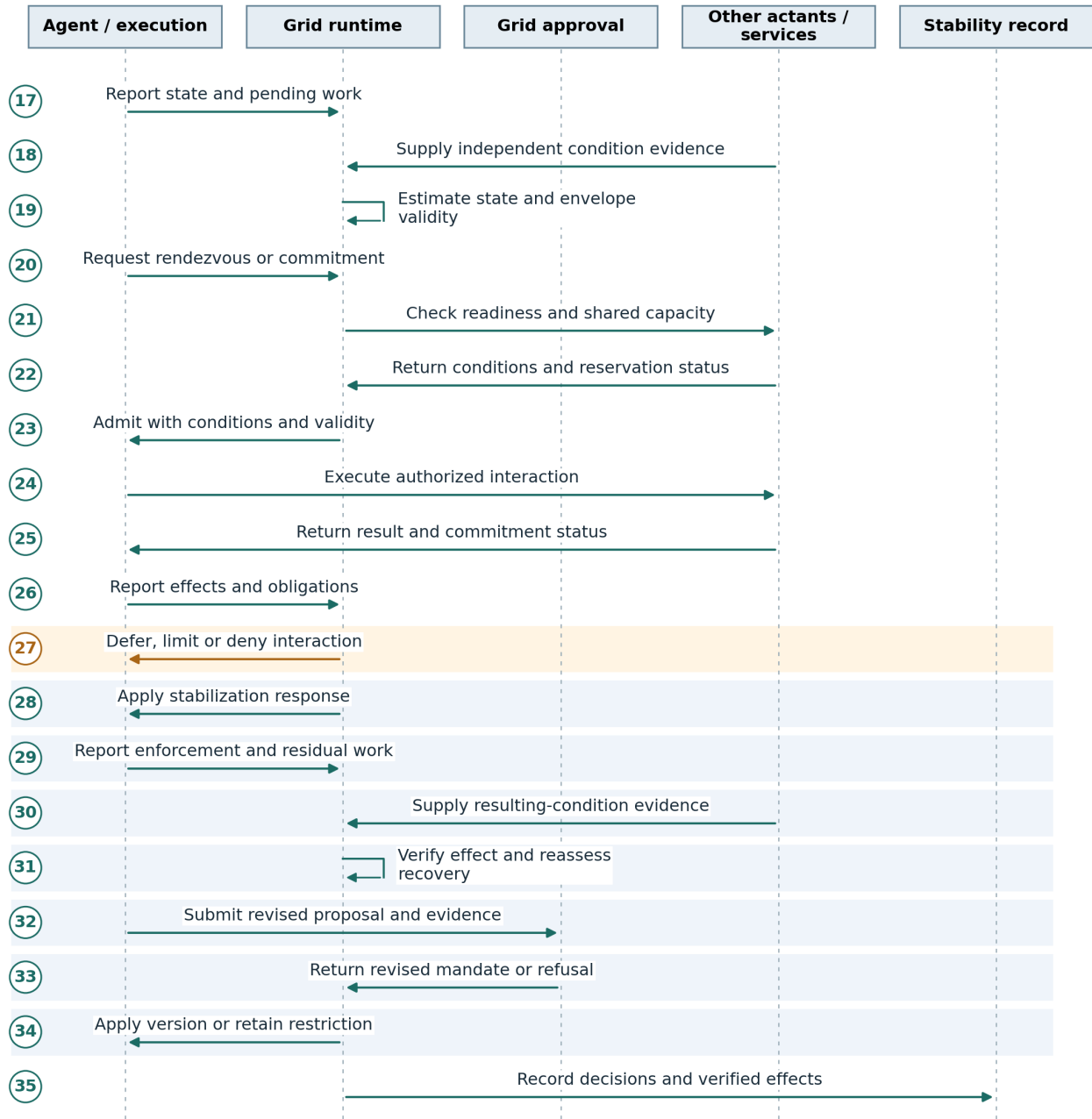
Sequence 1 Intent Group Approval and operational attachment



08: revision/refusal branch. 09-16: approved branch only.

A refusal or revision at 08 returns to proposal work; it does not proceed into approval. Activation at 16 is conditional on completed checks and current evidence.

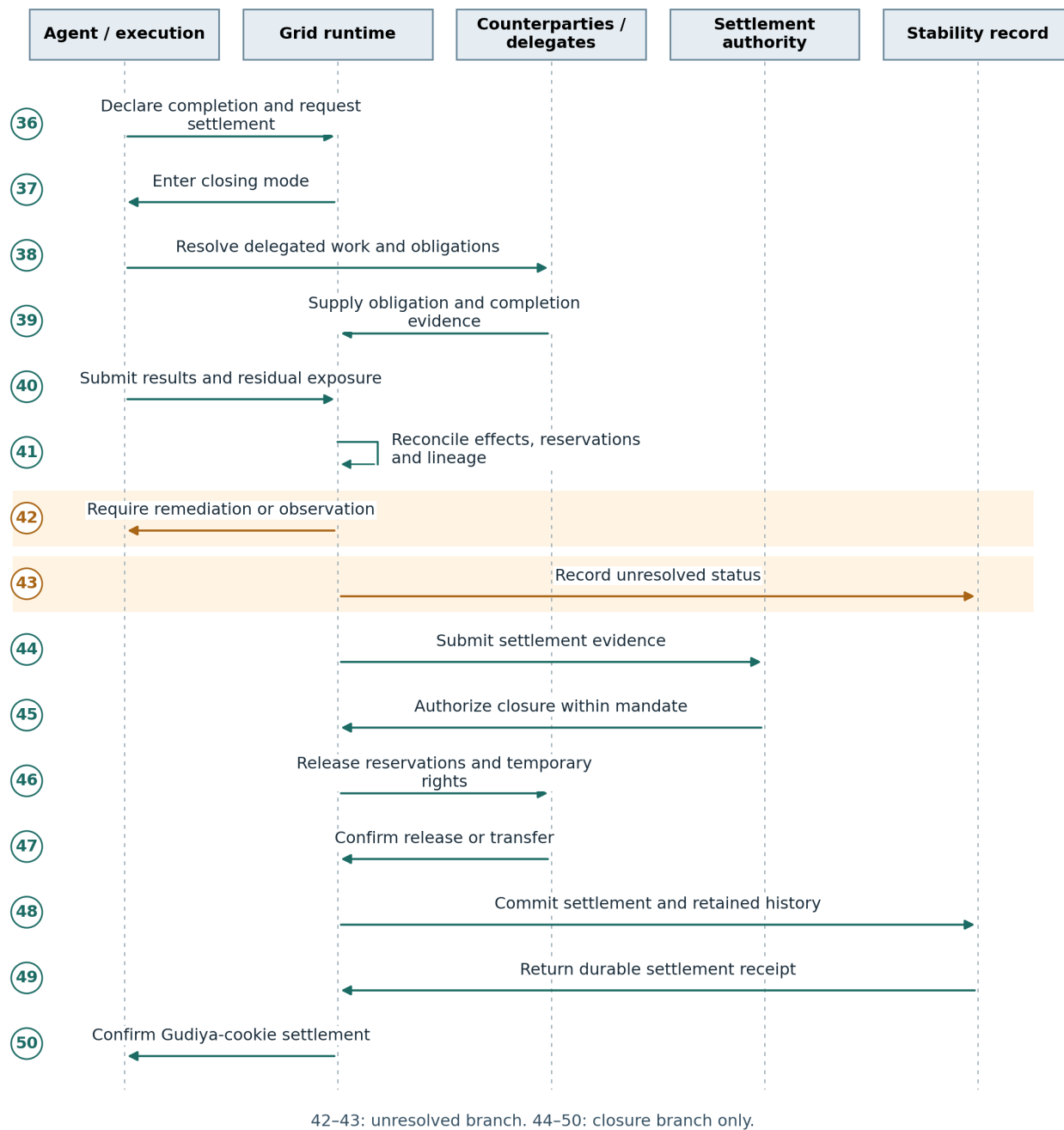
Sequence 2 Execution rendezvous and envelope management



17-35 repeats. 23-26 OR 27. 28-31 and 32-34 are conditional.

Interactions 23-26 occur only when admitted; 27 is the alternative. Intervention and reapproval are conditional. Wider observation continues even when no explicit rendezvous is requested.

Sequence 3 Reconciliation and Gudiya cookie settlement



Unresolved cases 42–43 remain open and return to reconciliation after remediation. Final settlement requires confirmed release or accepted transfer; failed confirmations do not proceed to 48.

Sequential exchanges 01 through 07

Step and exchange	Purpose and required result	Why CAS or HCAS framing matters
01 Define objective and delegated authority Sponsor → Agent / execution	Specify purpose, constraints and who may authorize changes.	Adaptive strategies need a stable source of authority; capability does not confer permission.
02 Register identity and persistent lineage Agent / execution → Grid approval	Present verifiable identity, sponsorship and relevant execution history.	Adaptation and migration must not erase responsibility or unresolved work.
03 Establish restricted proposal channel Grid approval → Agent / execution	Permit authenticated onboarding exchanges without operational execution.	An adaptive participant must not treat registration as general authority.
04 Submit Intent-Group proposal Agent / execution → Grid approval	Declare purpose, participants, dependencies, delegation and closure criteria.	The collective and its couplings matter alongside the individual agent.
05 Assess dependencies and current conditions Grid approval → Grid runtime	Request evidence of shared capacity, exposure and control reach.	Conditions can change between proposal preparation and evaluation.
06 Recommend stability envelope and margins Grid runtime → Grid approval	Return supported limits, uncertainties and reassessment triggers.	The envelope depends on evolving collective conditions, not only fixed permissions.
07 Check policy, capacity and control reach Grid approval → Grid approval	Test the proposal against authority and available stabilization capability.	A permissible objective may exceed current capacity or intervention capability.

Sequence labels identify functional exchanges. Their implementation must specify authenticated identities, cookie and mandate versions, evidence timestamps, acknowledgement meaning and retry behavior.

Sequential exchanges 08 through 14

Step and exchange	Purpose and required result	Why CAS or HCAS framing matters
08 Return conditions or refusal Grid approval → Agent / execution	Hold execution; permit a revised proposal when appropriate.	Unknown dependencies justify bounded commissioning or refusal, not assumed safety.
09 Record mandate and envelope version Grid approval → Stability record	Retain approved scope, authority, evidence and conditions of validity.	Versioning distinguishes authorized adaptation from unapproved expansion.
10 Issue conditional execution authorization Grid approval → Agent / execution	Make approval subject to completed operational attachment.	Approval-time evidence can expire before execution begins.
11 Request attachment via GSE- Lang Agent / execution → Grid runtime	Bind the execution environment to the approved mandate.	The actual host, tools and delegates must remain reachable by controls.
12 Negotiate telemetry and control contract Grid runtime → Agent / execution	Agree semantics, freshness, deadlines, fallbacks and supported controls.	HCAS requires meaningful evidence and effective intervention within a deadline.
13 Demonstrate control responsiveness Agent / execution → Grid runtime	Exercise bounded controls and report actual effects.	An acknowledgement alone does not prove that adaptive work can be stopped or paced.
14 Bind identity, CCS and mandate Grid runtime → Grid runtime	Associate shared references and authority with the attachment.	Comparing changing actants requires coherent references and attributable evidence.

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Sequential exchanges 15 through 21

Step and exchange	Purpose and required result	Why CAS or HCAS framing matters
15 Bind Gudiya-cookie to collective Grid runtime → Stability record	Record the undertaking, membership, envelope and relevant commitments.	The collective may evolve while its authorized undertaking remains traceable.
16 Confirm attachment and activate execution Grid runtime → Agent / execution	Enable work only after required activation checks succeed.	Recheck freshness and capacity; prior approval is not indefinite assurance.
17 Report state and pending work Agent / execution → Grid runtime	Provide intent changes, progress, delegation and outstanding commitments.	The observed agent may differ from the agent originally approved.
18 Supply independent condition evidence Actants / services → Grid runtime	Provide available counterpart and shared-resource observations.	Self-reports alone cannot establish collective pressure or external effects.
19 Estimate state and envelope validity Grid runtime → Grid runtime	Assess current conditions, uncertainty and whether limits still apply.	Adaptation can change the boundary as well as movement toward it.
20 Request rendezvous or commitment Agent / execution → Grid runtime	Declare proposed interaction, scope, counterpart and exposure.	New couplings can change the dynamics of the collective.
21 Check readiness and shared capacity Grid runtime → Actants / services	Coordinate counterpart conditions and any capacity reservation.	Individually acceptable interactions can compete for the same capacity.

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Sequential exchanges 22 through 28

Step and exchange	Purpose and required result	Why CAS or HCAS framing matters
22 Return conditions and reservation status Actants / services → Grid runtime	Return current readiness, limits and reservation evidence.	Readiness is time-sensitive; concurrent requests can invalidate stale capacity.
23 Admit with conditions and validity Grid runtime → Agent / execution	Issue bounded authorization for the proposed interaction.	An admission is conditional and time-limited, not a blanket future clearance.
24 Execute authorized interaction Agent / execution → Actants / services	Perform the admitted operation within its conditions.	Execution must preserve limits across generated code, tools and delegates.
25 Return result and commitment status Actants / services → Agent / execution	Distinguish completion, acceptance, partial work and failure.	An accepted request may continue to produce effects after the local call returns.
26 Report effects and obligations Agent / execution → Grid runtime	Report observed outcomes, errors and remaining exposure.	The next decision depends on actual effects and accumulated state.
27 Defer, limit or deny interaction Grid runtime → Agent / execution	Restrict the request when authority or conditions are inadequate.	Deferral can trigger retries or rerouting; those responses also need observation.
28 Apply stabilization response Grid runtime → Agent / execution	Use authorized pacing, isolation, suspension or other bounded control.	HCAS can require local action before a human can review the event.

Sequence labels identify functional exchanges. Their implementation must specify authenticated identities, cookie and mandate versions, evidence timestamps, acknowledgement meaning and retry behavior.

Sequential exchanges 29 through 35

Step and exchange	Purpose and required result	Why CAS or HCAS framing matters
29 Report enforcement and residual work Agent / execution → Grid runtime	Separate receipt, application, completion and work still in motion.	Stopping new reasoning does not necessarily cancel delegated or queued actions.
30 Supply resulting-condition evidence Actants / services → Grid runtime	Observe shared conditions after the intervention.	A local improvement may conceal displaced stress elsewhere.
31 Verify effect and reassess recovery Grid runtime → Grid runtime	Determine whether conditions improve and further action is needed.	Control changes the system; its effects and adaptive responses must be checked.
32 Submit revised proposal and evidence Agent / execution → Grid approval	Seek renewed authority for changes beyond the current mandate.	Changed purpose, membership or exposure can invalidate earlier approval.
33 Return revised mandate or refusal Grid approval → Grid runtime	Issue an authorized version or retain the existing restriction.	Automatic adaptation must not silently redefine human policy.
34 Apply version or retain restriction Grid runtime → Agent / execution	Distribute the decision and verify which version is active.	Mixed mandate versions can produce inconsistent collective behavior.
35 Record decisions and verified effects Grid runtime → Stability record	Persist state, evidence, controls and unresolved obligations.	Path dependence makes retained history relevant to future stabilization.

Sequence labels identify functional exchanges. Their implementation must specify authenticated identities, cookie and mandate versions, evidence timestamps, acknowledgement meaning and retry behavior.

Sequential exchanges 36 through 42

Step and exchange	Purpose and required result	Why CAS or HCAS framing matters
36 Declare completion and request settlement Agent / execution → Grid runtime	Present the claim that the undertaking is ready for closure.	Local task success does not establish that collective effects have ended.
37 Enter closing mode Grid runtime → Agent / execution	Restrict new commitments while permitting authorized closure work.	New adaptive work must not continually expand the undertaking being reconciled.
38 Resolve delegated work and obligations Agent / execution → Actants / services	Complete, cancel, compensate or propose accountable transfer of open work.	Distributed effects can outlive the initiating agent or its current host.
39 Supply obligation and completion evidence Actants / services → Grid runtime	Obtain relevant counterpart confirmation independently of the completion claim.	No single participant necessarily observes every unresolved effect.
40 Submit results and residual exposure Agent / execution → Grid runtime	Provide final outputs, exceptions and an explicit residual-work inventory.	Uncertainty must remain visible rather than disappear into a success flag.
41 Reconcile effects, reservations and lineage Grid runtime → Grid runtime	Check the closure criteria across all covered participants and records.	Settlement is a collective state assessment, not just the last agent response.
42 Require remediation or observation Grid runtime → Agent / execution	Keep the undertaking open under a bounded recovery or monitoring plan.	Delayed effects and incomplete evidence can prevent defensible closure.

Sequence labels identify functional exchanges. Their implementation must specify authenticated identities, cookie and mandate versions, evidence timestamps, acknowledgement meaning and retry behavior.

Sequential exchanges 43 through 50

Step and exchange	Purpose and required result	Why CAS or HCAS framing matters
43 Record unresolved status Grid runtime → Stability record	Retain pending, suspended or disputed obligations with accountable ownership.	Stopping execution must not erase the history or the remaining exposure.
44 Submit settlement evidence Grid runtime → Settlement authority	Present reconciled results and any proposed residual-obligation transfers.	The decision must cover the collective outcome and remaining uncertainty.
45 Authorize closure within mandate Settlement authority → Grid runtime	Approve closure conditions through the authorized settlement function.	Human policy can delegate closure without requiring human review of every event.
46 Release reservations and temporary rights Grid runtime → Actants / services	Perform authorized releases and accepted transfers needed for closure.	Uncoordinated release can strand work or create a synchronized restart surge.
47 Confirm release or transfer Actants / services → Grid runtime	Verify each required release or explicitly accepted transfer.	Transfer requires a responsible recipient; silence cannot establish completion.
48 Commit settlement and retained history Grid runtime → Stability record	Persist terminal status only after closure conditions are verified.	The cookie can close while the actant and its stability history continue.
49 Return durable settlement receipt Stability record → Grid runtime	Confirm the committed version and evidence reference.	Retries and failures must not create conflicting or duplicate settlement states.
50 Confirm Gudiya-cookie settlement Grid runtime → Agent / execution	Deliver a verifiable receipt and distinguish cookie closure from detachment.	An agent may continue with another undertaking without resetting its history.

Sequence labels identify functional exchanges. Their implementation must specify authenticated identities, cookie and mandate versions, evidence timestamps, acknowledgement meaning and retry behavior.

The Gudiya-cookie Across the Three Layers of the SI-Economy

SI-Economy Layer	Activity within the undertaking	Relevant stability considerations
Agentic Layer	Reasoning, planning, delegation, interpretation and adaptation.	Correlated decisions, recursive delegation, changing intent and the rate at which new commitments are proposed.
Digital Services layer	API calls, reservations, transactions, workflow execution and service coordination.	Queues, retries, conflicting reservations, accepted obligations and processing capacity.
Resource layer	Allocation or consumption of compute, energy, inventory, liquidity and physical capacity.	Availability, replenishment time, recovery reserves and irreversible effects.

The lifecycle described in this chapter spans the complete three-layered SI-Economy (previously termed the AI-Economy). An undertaking may begin with intent and planning in the Agentic layer, invoke capabilities in the Digital Services layer, and create commitments or consume capacity in the Resource layer. These movements need not follow a single downward sequence. Results, constraints and changing conditions can return the undertaking to an earlier layer, where the agent adapts its plan and initiates further activity.

A Gudiya-cookie's undertaking can therefore zig-zag, branch and operate concurrently across all three layers. The cookie provides the persistent reference connecting its authorized purpose, participants, operating envelope, execution history and outstanding obligations. Its activities and effects traverse the layers; the cookie need not be a single software object physically passed between them.

Consider an agent arranging a purchase. It develops a plan, invokes a procurement service and obtains an inventory reservation. A change in resource availability then causes the service to return a constraint. The agent revises its plan and seeks an alternative. Meanwhile, the original reservation may remain active. This is one continuing undertaking with accumulated state, even though its activity has moved between layers several times.

Returning to the Agentic layer does not reset the undertaking's exposure. Replanning, delegation, migration or restart must preserve the association with prior reservations, accepted transactions and unfinished work. A locally completed operation may still have effects elsewhere in the SI-Economy.

The stability envelope must consequently address cross-layer relationships. A permissible rate of agentic decisions may exceed a service's processing capacity; a service may accept transactions faster than underlying resources can support them. Grid envelope management must use relevant evidence from all affected layers and coordinate controls so that relieving pressure in one layer does not merely displace it into another.

In the sequence diagrams presented earlier, the lifelines labeled "Other actants and shared services" and "Counterparties and delegates" compress these interactions for readability. They should be understood to include the relevant service and resource interfaces. An expanded implementation diagram should distinguish those interfaces explicitly, including their observations, control points and outstanding commitments.

Gudiya-cookie settlement is therefore a cross-layer determination. Completion of the agent's reasoning is insufficient. Closure requires evidence that the undertaking's relevant service and resource obligations have been completed, canceled, compensated or explicitly transferred to an accountable successor. Any accepted residual exposure must remain recorded under the applicable authority.

The governing lifecycle principle is:

A Gudiya-cookie may traverse, branch across and return between all three layers of the SI-Economy. Its stability responsibility follows the undertaking across those transitions until its cross-layer obligations are resolved or accountably transferred.

Conditions that keep the lifecycle coherent

Two loops share one mandate

Operational stabilization adjusts current activity and verifies the effects. Envelope reassessment evaluates whether adaptation, changed coupling or reduced control capability has invalidated the operating limits. Both occur under human-defined authority. Grid-initiated evidence of an invalid envelope can trigger reapproval as well as an agent proposal; the affected expansion remains restricted while review is pending.

Policy-defined limits, estimated sustainable conditions and the authorized operating envelope must remain distinguishable. A capacity estimate does not grant permission; a permission does not establish sustainability. At approval, the recommended envelope needs a stated scope, uncertainty allowance and reassessment triggers. During execution, the Grid should identify whether it is changing activity within the mandate or seeking a change to the mandate itself.

Observation must cover consequential coupling

Rendezvous Management governs declared interactions and commitments. Shared queues, common information sources and competition for resources can create implicit coupling without a direct handshake. The independent observations at 18 and 30 must therefore cover relevant conditions beyond the focal agent. Missing coverage must be recorded as uncertainty, not interpreted as evidence of stability.

Timing and control reach must remain valid

The combined observation, estimation, decision, delivery and effective-enforcement delay must fit the available intervention window with margin. Stale evidence, communication loss and overload trigger the agreed degraded mode. Controls may have to act locally before broader coordination arrives. A command receipt is distinct from stopping queued work, canceling a delegate or restoring shared capacity.

Migration and delegation preserve the undertaking

When a participant changes model, harness or host, its identity and authorized lineage remain associated with the cookie. Attachment must be renewed or transferred with control reach verified before execution resumes. Unfinished work and prior commitments accompany the handover. Adding a delegate within approved bounds still requires attributable identity and enforceable scope; expansion beyond those bounds requires renewed authority.

Closure is conditional and recoverable

At 45, closure authorization permits the required finalization actions; it is not yet a durable declaration of settlement. Required release or transfer confirmations at 47 precede the settlement commit at 48. A failure in

this interval leaves an explicit pending state. Repeated messages must be idempotent or otherwise deduplicated, with a recoverable record of partial progress. Successful cookie settlement can be followed by another approved undertaking while the actant remains attached.

The next engineering test

Exercise the numbered routes under denied admission, stale capacity, competing reservations, new delegation, communication partition, partial enforcement, migration with unfinished work and failed settlement confirmation. For each, specify the authority, evidence, deadline, permitted response and verified result. The lifecycle is credible when these paths preserve essential functions and accountable obligations under the declared assumptions—not merely when the happy path completes.