

0. Use Case Anchor (Authoritative)

Business Use Case	Objective	Actor	Required Outputs
Automated, auditable account opening for new clients	End-to-end onboarding of new accounts accurately, efficiently, and traceably through AI-driven automation	AI Co-Worker Agent Team, Human Reviewers, Operations/ Onboarding, Custodians, Compliance	Validated account packets, workflow state/ exception artifacts, signed forms, write-back artifacts, audit logs

1. Authoritative Data Flow (From Context)

Flow Step ID	Step Description	Persistence Required (Yes/No)	Expected Data State
1	Ingest intake forms, client docs from sources	Yes	Raw/as received
2	Normalize, classify, associate intake data	Yes	Normalized, validated
3	Validate, align per custodian/account rules	Yes	Validated, linked
4	Assemble packet, generate workflow outputs	Yes	Assembled/structured packet
5	Exception/review handling (human-in-loop, status logs)	Yes	Workflow state/exception log
6	Generate/rout DocuSign envelope artifact (on demand)	Yes	Envelope artifact
7	Submission and write-back to Salesforce/Edge/Custodian	Yes	Status/artifact
8	Audit logging (every workflow step/audit trace)	Yes	Immutable audit/trace event

2. Data Sources / Apps / Services (Non-Layer)

Name	Category	Produces Data	Consumes Data	Feeds Bronze Component	Notes
Salesforce/Edge	App/Platform	Yes	Yes	Yes	System of record; supports write-back and ingestion
Formstack	App/Service	Yes	No	Yes	Client intake forms
Schwab Custodian	External App	Yes	Yes	Yes	Custodian forms/rules ingested
Fidelity Custodian	External App	Yes	Yes	Yes	Custodian forms/rules ingested
DocuSign	Service	Yes	Yes	Yes	Signature envelopes
Black Diamond (optional)	App/Platform	Yes	No	Yes	Statements/validation docs (optional input)
Client-provided Docs	App/Source	Yes	No	Yes	Uploaded statements, IDs, PDFs
Subatomic Deep Lens	Service	Yes	Yes	Yes	Workflow/audit logs—feeds and consumes for audit
AI Co-Worker Agent Team	Agent/App	No	Yes	No	Workflow orchestrator/consumer of Gold
Human Reviewer	Human	No	Yes	No	Consumes workflow state via Gold layer
Packet Assembly Service	Service	No	Yes	No	Consumes from Gold (direct output)

3. Layer Store Typing Decision (Mandatory)

Layer	Layer Exists (Yes/No)	Allowed Store Type	Justification
Bronze	Yes	Data Lake / STAGING / sFTP / FTP Server (File/Object)	Required to preserve raw/as received data from all intake sources, for traceability, compliance
Silver	Yes	Data Lake / STAGING (Structured DB)	Required for normalization/classification, packet prep, contextual merge, prior to output generation
Gold	Yes	Data Warehouse	Required for final packet output, state/exceptions, audit logs, per explicit workflow/output needs

4. Identified Persistence Components (Stores Only)

Persistence Component	Assigned Layer	Store Type	Data State	Flow Step ID
Raw Intake Object Store	Bronze	Data Lake / STAGING / sFTP / FTP Server (File/Object)	Raw/as received	1
Raw Client Docs Store	Bronze	Data Lake / STAGING / sFTP / FTP Server (File/Object)	Raw/as received	1
Raw Custodian Form Store	Bronze	Data Lake / STAGING / sFTP / FTP Server (File/Object)	Raw/as received	1
Raw Audit/Event Log Store	Bronze	Data Lake / STAGING / sFTP / FTP Server (File/Object)	Raw/as received	1,8
Normalized Intake Table	Silver	Data Lake / STAGING (Structured DB)	Normalized/classified	2
Document Metadata Table	Silver	Data Lake / STAGING (Structured DB)	Normalized/classified	2,3
Custodian Form Mapping	Silver	Data Lake / STAGING (Structured DB)	Mapped/validated	3
Workflow State Table	Silver	Data Lake / STAGING (Structured DB)	Validated/linked	3
Audit Event Table	Silver	Data Lake / STAGING (Structured DB)	Linked/validated	3,8
Packet Output Warehouse	Gold	Data Warehouse	Final shaped packet	4
Workflow State Feed (Gold)	Gold	Data Warehouse	Final workflow/exception	5
Signature Envelope Artifact	Gold	Data Warehouse	Envelope artifact	6
Write-back Payload Store	Gold	Data Warehouse	Status/artifact	7
Audit Log Warehouse	Gold	Data Warehouse	Immutable audit event	8

5. Use-Case Data Requirements Mapping (Scope Gate)

Use Case Requirement	Required Dataset	Layer	Store Type	Flow Step ID
Intake forms, statements, docs preserved	Raw Intake, Client Docs, Custodian Forms, Audit Logs	Bronze	Data Lake / STAGING / sFTP / FTP Server (File/Object)	1,8
Normalized, validated intake/contextual data	Normalized Intake, Doc Metadata, Custodian Form Mapping, Workflow State, Audit Table	Silver	Data Lake / STAGING (Structured DB)	2,3,8
Packet/Artifact output for AI workflow	Packet Output Warehouse	Gold	Data Warehouse	4
Human-in-the-loop workflow state/exception	Workflow State Feed	Gold	Data Warehouse	5
Signed envelope output	Signature Envelope Artifact	Gold	Data Warehouse	6
Write-back and status update data	Write-back Payload Store	Gold	Data Warehouse	7
Immutable audit/trace event log	Audit Log Warehouse	Gold	Data Warehouse	8

6. Persistence Validation (Hard Gate)

Persistence Component	Supports Use Case (Yes/No)	If No: Action (Remove / Reclassify / Not in Context)	Notes
Raw Intake Object Store	Yes	--	Required for traceability/compliance (raw fidelity)
Raw Client Docs Store	Yes	--	Required for auditability of client-submitted docs
Raw Custodian Form Store	Yes	--	Must preserve custodian requirements in original form
Raw Audit/Event Log Store	Yes	--	Ensures workflow auditability at ingestion
Normalized Intake Table	Yes	--	Enables AI/agent validation/classification
Document Metadata Table	Yes	--	Required for packet/document assembly
Custodian Form Mapping	Yes	--	Needed for rule-based packet building in workflow
Workflow State Table	Yes	--	Required to support agent/human review/exception mgmt
Audit Event Table	Yes	--	Enables continuous audit trace linking
Packet Output Warehouse	Yes	--	Final/authoritative packet output for workflow/agents

Persistence Component	Supports Use Case (Yes/No)	If No: Action (Remove / Reclassify / Not in Context)	Notes
Workflow State Feed (Gold)	Yes	--	Enables agent/human-driven actions
Signature Envelope Artifact	Yes	--	Only generated/used as required by workflow
Write-back Payload Store	Yes	--	Required for system/custodian state updates
Audit Log Warehouse	Yes	--	Immutable audit store for compliance

7. Cross-Layer State Transitions

From Layer	To Layer	Flow Step ID	Data State Change
Bronze	Silver	2,3	Raw → Normalized/validated
Silver	Gold	4,5,6,7,8	Validated/normalized → Final output/state (packet, workflow exception, audit)