

Gold Layer Rules Extraction

Entity, Attribute, and Relationship Specification

| Entity Name | Attributes | Relationships | Justification |
|-----------------------|---|---|--|
| AccountPacketFact | packetid (string), clientid (string), custodianid (string), submissiontimestamp (timestamp), validatedstatus (string), packetstatus (string), error_flag (bool), ... (flattened, supporting fields) | FK to ClientDimension (clientid), FK to CustodianDimension (custodianid), 1:N with WorkflowStateFact, 1:N with SignatureEnvelopeFact, 1:N with WritebackStatusFact, 1:N with AuditEventFact (packetid), reference to EnvelopeDimension via associated envelope(s) | Represents the final, validated onboarding packet for each client/account—fulfilling the use case of export-ready, consumption-focused outputs for the agentic workflow; all attributes ensure sufficient context, validation, lineage, and status; relationships bind packet to workflow events, envelopes, audit, writeback, and reference dimensions, supporting traceability, exception handling, and submission workflows, tightly aligned to business and operational compliance requirements. |
| WorkflowStateFact | workfloweventid (string), packetid (string), statetransition (string), exceptiontype (string), reviewerid (string), eventtimestamp (timestamp) | FK to AccountPacketFact (packetid) | Models the progression and exception state of each onboarding packet, enabling near-real-time workflow coordination and escalation handling; attributes capture transition types, exceptions, human review intervention, and event audit—critical for exception resolution, compliance traceability, and synchronization with operational steps for both automation and human-in-the-loop decision making. |
| SignatureEnvelopeFact | envelopeid (string), packetid (string), envelopestatus (string), doclink (string) | FK to AccountPacketFact (packetid), FK to Envelope_Dimension (envelopeid) | Captures the envelope/form artifact representing electronic signatures for account packets; essential for digital submissions, and for tracking status throughout the signature and routing process; attributes structure envelope status and linkage for completeness, supporting the legally binding and compliance aspect of account opening with full traceability of signed forms. |
| WritebackStatusFact | writebackid (string), packetid (string), statuscode (string), synctime (timestamp) | FK to AccountPacketFact (packetid) | Records each required status update and write-back event (to Salesforce, Edge, custodian, etc.), ensuring lifecycle state is synchronized across platforms; attributes ensure alignment with state transitions, operational hand-off, and system integration—the core enforcement point for workflow completion and traceability. |
| AuditEventFact | auditeventid (string), packetid (string), eventtype (string), eventtimestamp (timestamp), actorid (string) | FK to AccountPacketFact (packetid, optional) | Immutable log of workflow, decision, and state events, providing a complete audit record for each step; attributes and relationships enforce linkage between operational records and compliance demands (including actor attribution, event type, and time), fully supporting subatomic trace/replay and compliance validation/response. |
| Client_Dimension | clientid (string), clientname (string), householdid (string), ... | Referenced by AccountPacketFact (client_id), WorkflowStateFact, etc. | Reference/master data for clients, providing identity resolution, de-duplication, and join context for packet facts; attributes are necessary to ensure contextual linkage for all client-facing outputs and regulatory alignment. |
| Custodian_Dimension | custodianid (string), custodianname (string), formid (string), ... | Referenced by AccountPacketFact (custodian_id), SignatureEnvelopeFact | Reference/master data for custodians and form definitions, supporting packet assembly and ensuring correct routing/validation against custodian-specific rules; required for enforcing business logic and mapping. |
| Envelope_Dimension | envelopeid (string), templatenamename (string), doctype (string), ... | Referenced by SignatureEnvelopeFact (envelopeid) | Reference/master metadata for envelope and artifact templates, enabling linkage for legal/compliance context and envelope-based operational artifacts; ensures traceability and mapping between facts and e-signature artifacts in the workflow. |

Business Rules

| Rule Description | Source Dataset | Target Dataset | Priority | Notes |
|---|---|-------------------|----------|--|
| Only fully validated, complete onboarding packets are included in AccountPacketFact | IntakeFormNormalized, Document_Metadata, CustodianFormIndex | AccountPacketFact | High | Ensures only compliant, consumption-ready onboarding packets reach Gold; supports regulatory, operational, and BI objectives |
| | | AccountPacketFact | High | |

| Rule Description | Source Dataset | Target Dataset | Priority | Notes |
|--|--|--|----------|---|
| Client intake forms are associated to unique clients/households via clientid, householdid | IntakeFormNormalized, Client_Dimension | | | Guarantees packet joins are accurate; enables client-level reporting, SLA, compliance |
| Each packet must be mapped to a valid custodian and correct account type | CustodianFormIndex | AccountPacketFact | High | Ensures that downstream workflow/ packet assembly meets custodian-specific rules; supports form population/ audit |
| Workflow state changes are only tracked for validated packets | Workflow State Table, IntakeFormNormalized | WorkflowStateFact | High | Embeds QA/SLA into event logging; prevents orphaned workflow states |
| Human-in-the-loop actions (review, approval, exception) must be explicitly logged and linked | Workflow State Table, AuditEventLog | WorkflowStateFact, AuditEventFact | High | Supports compliance (audit trail, reviewer attribution, exception handling) |
| Envelopes for e-signature are only generated for packets requiring electronic signatures | EnvelopeMetadata | SignatureEnvelopeFact | Medium | Limits envelope entries to required packets/events; ensures artifact mapping per business workflow |
| Write-back events/states must only occur for packets in an "approved" or "complete" status | Workflow State Table, IntakeFormNormalized | WritebackStatusFact | High | Ensures consistent synchronization with source-of-truth systems (Salesforce, Edge, custodians); prevents erroneous system updates |
| Audit events must be immutable, timestamped, and include context (actor, eventtype, packet) | AuditEventLog | AuditEventFact | High | Core compliance/certification requirement; allows event replay and regulatory traceability |
| Only packets with all required supporting documents and field completeness are processed | IntakeFormNormalized, Document_Metadata | AccountPacketFact | High | Data quality gate; ensures end-to-end traceability and readiness for custodian submission |
| Packets with validation errors are flagged and not advanced to write-back or downstream submission | IntakeFormNormalized, Workflow State Table | AccountPacketFact, WritebackStatusFact | High | Operational/business guardrail; errorflag and packetstatus control process continuation |
| Data lineage from intake to Gold Layer must be preserved for every Gold entity | N/A | All Gold entities | High | Data lineage requirement for audit, including source references in facts/dims |

Data Transformation Rules

| Rule Description | Source Field | Target Field | Transformation Type | Notes |
|---|---|--|---------------------------|---|
| Map normalized client intake form fields to fact table columns in AccountPacketFact | IntakeFormNormalized.* | AccountPacketFact.* | Field mapping, Flattening | Includes flattening of formfieldsjson and explicit mapping of validatedstatus, packetstatus, etc. |
| Join client reference data on client_id; enrich AccountPacketFact with client attributes | IntakeFormNormalized.clientid, ClientDimension.clientid | AccountPacketFact.client_id, AccountPacketFact.clientname, etc. | Join | Supports dimensional lookups/ denormalization for Gold consumption |
| Map custodian/form metadata from CustodianFormIndex into AccountPacketFact | CustodianFormIndex.* | AccountPacketFact.custodianid, AccountPacketFact.formid | Join | Ensures downstream workflow has form/ custodian context |
| Aggregate and log workflow state transitions for each packet event | Workflow State Table.eventid, .state | WorkflowStateFact.workfloweventid, WorkflowStateFact.statetransition | Aggregation/Join | Each workflow transition is an event linked to one packet |
| Filter for only packets with validated_status = 'valid' for inclusion in downstream facts | IntakeFormNormalized.validation_status | AccountPacketFact | Filtering | Prevents inclusion of incomplete, errored, or invalid packets |
| Derive error_flag based on failed validations | IntakeFormNormalized.validation_status/ errors | AccountPacketFact.error_flag | Calculation/ Derivation | Simple binary/ indicator calculation from validation results |
| Link envelopes to packets using packetid in SignatureEnvelopeFact | EnvelopeMetadata.packetid | SignatureEnvelopeFact.packetid | Join | Maintains 1:N linkage as per e-signature requirements |
| | | WritebackStatusFact | Filtering/Join | |

| Rule Description | Source Field | Target Field | Transformation Type | Notes |
|---|---|-------------------|----------------------|---|
| Associate each write-back event with only packets in 'approved' or 'complete' state | Workflow State Table.status, IntakeFormNormalized.packet_status | | | Synchronizes write-back status only for qualified packets |
| Join audit events (actor, eventtype, eventtimestamp, packet reference) for all packet steps | AuditEventLog.*, IntakeFormNormalized.form_id | AuditEventFact.* | Join/Projection | Ensures complete workflow replay and compliance mapping |
| Enrich each fact with dimension references (client/custodian/envelope) | ClientDimension, CustodianDimension, Envelope_Dimension | All facts | Denormalization/Join | Star schema requirement—facilitates downstream reporting/consumption |
| Include only data from approved NorthRock IT environments | N/A | All Gold entities | Filtering | Security/compliance filter: No extraneous or external data permitted |
| Track state, status, and artifact lineage from Silver to all Gold Layer entities | Ingestion/source fields, event logs | All facts/dims | Metadata propagation | Required for trace, replay, and audit spanning intake, workflow, and output artifacts |
| Flatten multi-source document associations for packet output | Document_Metadata, FormDocumentAssoc | AccountPacketFact | Flatten/Join | Ensures all supporting docs are mapped to the final output packet |