# RAID Register – CDA Migration Automation (Read Replica → CDA via S3)

**Version:** 1.0 (Standalone)  
**Scope:** Risks, Assumptions, Issues, and Dependencies for the *automation test strategy and execution* supporting the switch from Read Replica (ADF) to CDA (S3 via Databricks).  
**Owners:** Data Eng, QA, Platform/DevOps, Product/SME

## 1) Risks

**Risk Log – Tracking Table**

| ID | Risk Title | Description | Impact | Likelihood | Owner | Mitigation / Controls | Status | Target Date |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| R‑01 | Snapshot Misalignment | CDA and RR loads do not align in time, creating false diffs. | High | Med | Platform | Enforce run order; align schedules; use run boundary capture; compare by partition/date. | Open | T‑0 + 1w |
| R‑02 | Hidden Schema Drift | Unapproved column/type changes in CDA ODS Views break parity. | High | Med | Data Eng | DDL baseline; drift detector; change‑control approvals before deploy. | Open | Continuous |
| R‑03 | Large Table Cost | Full value compares on very large tables exceed SLA/cost. | Med | Med | QA | Partitioned hashing; progressive deep‑dive only on mismatch; sampling with auto‑promotion. | Open | T‑0 + 2w |
| R‑04 | SCD2 Window Errors | Overlaps/multi‑current due to CDC logic defects. | High | Low | Data Eng | SCD integrity checks (overlap/current/continuity); idempotency tests; guardrail recompute. | Open | T‑0 + 2w |
| R‑05 | Late Arrivals | Events landing after the compare window cause anomalies. | Med | Med | QA | Record run boundaries; detect sequence/timestamp gaps; verify correction next run. | Open | Continuous |
| R‑06 | Soft Delete Semantics | Inconsistent tombstone handling across paths. | Med | Med | Data Eng | Standardize delete filters; contract tests on ODS Views; explicit rules in config. | Open | T‑0 + 3w |
| R‑07 | Access/Permissions | QA cannot read one or both catalogs/INFO\_SCHEMA. | High | Low | Platform | Pre‑prod access review; service principal with least privilege; secrets rotation. | Open | T‑0 − 1w |
| R‑08 | Control Table Drift | gw\_cda.gw\_stream\_batches not in sync with reality. | Med | Low | Data Eng | Daily reconcile; automation flags disabled tables as pending; change alerts on updates. | Open | Continuous |
| R‑09 | Tooling Instability | Workflow failures block scheduled runs and dashboards. | Med | Med | DevOps | Retry policy; health checks; on‑demand re‑run; pager alerts; IaC for recovery. | Open | Continuous |
| R‑10 | Contract Gaps | ODS View projection diverges from RR behavior. | High | Low | Data Eng/SME | Contract tests; SME sign‑off; golden query regression. | Open | T‑0 + 2w |
| R‑11 | No Watermarks | Incremental validation unreliable without source watermarks. | Med | Med | QA | Baseline + delta replay; op reconciliation; periodic full recompute guardrails. | Open | Continuous |
| R‑12 | Cutover Regressions | Post‑switch issues impact Silver/Gold. | High | Low | QA | Keep Framework‑A in guardrail mode 2 weeks post‑cutover; rollback plan. | Open | Cutover + 2w |

**Impact/Likelihood scale:** Low / Medium / High. **Status:** Open / Mitigated / Closed.

## 2) Assumptions

| ID | Assumption | Rationale | Validation / Action | Owner |
| --- | --- | --- | --- | --- |
| A‑01 | Both paths publish to Databricks catalogs (no direct DB/S3 access needed). | Test architecture constraint. | Confirm catalogs and naming conventions exist; smoke check. | Data Eng |
| A‑02 | RR (std001) is the sign‑off benchmark until cutover. | Business directive. | Lock RR schemas; freeze breaking changes. | Product/Data Eng |
| A‑03 | CDA prod target is perf001 with Clone/SCD/ODS Views. | Environment definition. | Environment readiness checklist; INFO\_SCHEMA access. | Platform |
| A‑04 | gw\_stream\_batches governs CDA table enablement. | Dev design. | Automation queries it each run; disabled = pending. | QA |
| A‑05 | Silver/Gold logic remains unchanged. | Plug‑compatible swap. | Contract tests with golden queries before switch. | QA/SME |
| A‑06 | Change feed contains op type, timestamp, and sequence/offset. | Needed for delta replay. | Validate columns present for each table domain. | Data Eng |
| A‑07 | Tolerances are documented and approved by SMEs. | Prevent false positives. | Store in qa.rules; review board for updates. | Product/SME |

## 3) Issues (Current/Open)

| ID | Issue | Impact | Owner | Workaround / Resolution | Status | ETA |
| --- | --- | --- | --- | --- | --- | --- |
| I‑01 | Precision mismatch on coverage\_detail.amount (RR 18,2 vs CDA 19,2). | Blocks parity; downstream aggregations differ. | Data Eng | Align schema; backfill or cast in ODS View with approval. | Open | 2025‑08‑28 |
| I‑02 | Late arrivals observed on policy\_header batch‑3. | Causes daily variance spike. | QA | Track sequence gaps; confirm catch‑up next run; adjust windowing rule. | Open | 2025‑08‑23 |

*(Replace with live items as they arise.)*

## 4) Dependencies

| ID | Dependency | Description | Needed By | Owner | Risk if Delayed |
| --- | --- | --- | --- | --- | --- |
| D‑01 | Dual Catalog Publish | RR and CDA tables available in std001/perf001. | Testing start | Data Eng | Slip of testing window; incomplete coverage |
| D‑02 | Access Provisioning | QA SPN read to catalogs + INFO\_SCHEMA. | Before first run | Platform | Test runs fail; dashboards empty |
| D‑03 | Workflows | Schedules for ingestion and QA jobs aligned. | Daily | Platform | Misaligned snapshots; noisy alerts |
| D‑04 | SME Tolerances | Approved tolerance matrix per domain. | Before parity | Product/SME | False positives; blocked cutover |
| D‑05 | Dashboard Workspace | DB SQL/Power BI workspace and service principal. | Before UAT | Platform | No visibility; delayed sign‑off |
| D‑06 | Contract Specs | Definitive ODS View contracts for RR and CDA. | Before contract tests | Data Eng/SME | Unknown breaking changes |

## 5) Governance

* **Review Cadence:** Weekly RAID review with Data Eng, QA, Platform, SME.
* **Change Control:** Any schema or contract changes require drift approval before deployment.
* **Tools:** RAID tracked in this register and mirrored in Jira with links to failing run\_ids and dashboards.
* **Escalation:** Blocker risks/issues escalate to Steering within 24h.

## 6) Templates (Copy‑Paste)

**Risk/Issue Template**

ID:  
Title:  
Type: Risk | Issue  
Description:  
Impact:  
Likelihood:  
Owner:  
Mitigation / Resolution:  
Status:  
Target Date:  
Links: run\_id= , Jira= , Dashboard=

**Dependency Template**

ID:  
Name:  
Description:  
Needed By:  
Owner:  
Risk if Delayed:  
Notes:

**Assumption Template**

ID:  
Statement:  
Rationale:  
Validation/Action:  
Owner: