**Story — “Rescreen & Delta Push: Impact-Driven, Risk-Aware Enforcement”**

**Intent (one line)**

After a new sanctions snapshot is **trust-stamped and activated**, automatically **re-evaluate all impacted partners and transactions**, flip gates as needed, and push **precise, explainable deltas** back to SME systems — **without drowning them in noise** or causing unnecessary disruption.

**Business Outcome**

* Only **impacted entities** are re-screened — no wasteful full reloads.
* **High-risk flips** (ALLOW → HOLD/BLOCK) happen within minutes, before orders escape.
* SME systems get **clean delta events**, not full refresh dumps.
* Ops and auditors see a **chain of impact** (snapshot → delta → decision changes → gate flips).

**Actors**

* **Delta Engine** – computes impacted records & transactions.
* **Rescreen Orchestrator** – queues and processes rescreen jobs.
* **Screening Engine** – re-evaluates partners/transactions against the new snapshot.
* **Gatekeeper Service** – updates gate states & notifies SME systems.
* **Ops Pilot** – monitors progress, can throttle or pause for safety.
* **Audit Vault** – stores all before/after states and decision lineage.

**Preconditions**

* A **new snapshot** is ACTIVE (Story: Data Upload).
* Matching Index refreshed atomically.
* Delta map from snapshot vs previous snapshot is available (added, removed, changed records).

**End-to-End Flow (happy path)**

**1) Delta Classification**

* **Delta Engine** categorizes changes:
  + added[] → new sanctioned parties (critical)
  + removed[] → de-listed parties (could release holds)
  + modified[] → name/AKA/identifier/metadata changes (re-evaluate)

**Innovation 1 — Impact Lens:** Each delta record is scored by *Risk Tilt* (e.g., a new OFAC SDN is “Critical,” a typographical fix is “Low”).

**2) Impact Resolution**

* Build list of **Impacted Partners**: those with name/ID/country matches to delta records.
* Build list of **Impacted Transactions**: open orders/deliveries/invoices tied to those partners.
* Store as **Impact Manifest** in object storage with hash + timestamp.

**Innovation 2 — “Blast Radius Map”**: Visualization shows which tenants, partners, orders are in the firing line *before* any enforcement flips.

**3) Rescreen Queueing**

* Create **Rescreen Jobs** per impacted partner/transaction, tagged with:
  + snapshot\_id, impact\_reason, risk\_tilt\_score, priority.
* Queue jobs in priority order: high-risk first.

**4) Re-Evaluation**

* Screening Engine re-matches each partner/transaction using **new snapshot**.
* Produces:
  + New decision (ALLOW/REVIEW/BLOCK)
  + WHY + FIX
  + Decision lineage (snapshot\_id, rule version, provider record IDs)

**5) Gate Update & Event Push**

* Gatekeeper flips states where decisions changed:
  + ALLOW → HOLD/DENY (critical)
  + HOLD/BLOCK → ALLOW (de-listing or override expired)
* Publish **DecisionDeltaEvent** to SME systems:
  + {partner\_id/order\_id, old\_status, new\_status, why, fixes[], snapshot\_id, lineage\_badge}

**Innovation 3 — Delta-Only Push:** Only changed entities are sent, preventing noisy full syncs.

**6) Ops & Observability**

* Ops Console shows:
  + Progress bar (% rescreens complete)
  + Risk Tilt heatmap
  + Live count of gate flips per tenant
* Ops can:
  + Pause or throttle rescreen jobs
  + Drill into any impacted record (before/after decision)
  + Manually trigger re-push of selected events

**Innovation 4 — “Safe Mode Lever”:** Ops can run in “Shadow Mode” first — simulate gate flips without sending them — then commit when ready.

**7) Completion & Audit**

* When all rescreens complete:
  + Store Impact Manifest + before/after decisions + event logs in **Audit Vault**.
  + Generate **Rescreen Proof Bundle** (downloadable for auditors).

**Alternate / Failure Flows**

**A) Rescreen Backlog / Slowdown**

* If job queue grows too large, system **auto-prioritizes** by risk + revenue exposure.
* Low-priority rescreens run in background to avoid SLA breach.

**B) Provider Correction Snapshot**

* If provider issues rapid follow-up release (hotfix):
  + System **aborts remaining rescreens** and restarts with latest snapshot.
  + Impact Manifest versioned to show why earlier run was interrupted.

**C) Transaction Conflict**

* If order was released during rescreen but before HOLD update:
  + Gatekeeper logs “Late Flip Event” and alerts ops to review potential shipment risk.

**D) SME System Down**

* Event delivery retries with exponential backoff.
* Ops Console shows “Pending Push” count; one-click manual re-push available.

**Acceptance Criteria**

1. **Impacted-Only Re-screen**
   * ≥95% reduction in unnecessary re-evaluations vs full re-screen.
   * No partner with matching delta record is missed.
2. **Gate Flip SLA**
   * High-risk ALLOW → HOLD/BLOCK flips propagated to SME systems within **≤5 minutes** of snapshot activation.
3. **Delta Events**
   * Every event includes {snapshot\_id, provider\_record\_ids, old\_status, new\_status, lineage\_badge}.
   * SME system can display exactly why state changed.
4. **Audit Proof**
   * For any partner/order, we can retrieve:
     + Old decision, new decision, delta record(s) that caused change, timestamp of flip, and approver (if manual).
5. **Ops Control**
   * Ops can pause, resume, throttle, re-push.
   * Blast Radius Map available before running jobs.
6. **Fail-Safe**
   * If rescreen fails mid-run, all **unprocessed impacted entities default to REVIEW** until completion.

**Non-Functional Targets**

* **Throughput:** ≥10k rescreens/minute on SME-scale hardware.
* **Availability:** 99.9% rescreen orchestration uptime.
* **Performance:** Median gate update latency ≤ 2s per partner after decision computed.

**AI Assist (Assistive, never autonomous)**

* **Risk Prioritizer:** ML ranks impacted partners/transactions to process highest-risk first.
* **Delta Narrator:** LLM explains “Why this change matters” in plain language for Ops and SME alerts.
* **Noise Reducer:** ML suggests suppressing cosmetic name changes that don’t affect outcome (with ops approval).
* **Blast Radius Visualizer:** Auto-clusters impacted entities by tenant, geography, and program for better dashboard insight.

**Innovation Highlights (your differentiators)**

* **Impact-First, Noise-Free:** No full rescans; only affected partners & transactions re-evaluated.
* **Blast Radius Map:** Visual, tenant-aware impact view before enforcement flips.
* **Shadow + Commit Mode:** Safe dry-run before gate changes go live.
* **Delta-Only Push:** SME systems get lean, actionable events (less disruption).
* **Rescreen Proof Bundle:** Auditors can trace every flip back to snapshot delta & approval.