**3) API Contracts v1 (OpenAPI) — “Stable Pipes with Receipts”**

**Intent**  
Publish clear, versioned contracts for intake, gatecheck, decisions, and events so SMEs integrate once and trust them for years.

**Actors**  
API Gateway • Contract Registry • Webhook Sender • Tenants/Adapters

**Preconditions**

* Canonical schemas frozen (Partner, Material, Order Line, Decision, Evidence).
* KMS keys for response signing.

**Flow**

1. **Define Surfaces**
   * POST /screenings (idempotent with **Idempotency-Key**, returns **CIR**)
   * GET /gatecheck (low-latency decision with Lineage Badge, CBT/LRT echoes)
   * GET /decisions/{id} (full WHY+FIX & evidence refs)
   * **Events**: DecisionDelta, GateStateChanged, MaterialClassified, RulesetActivated, ListSnapshotActivated (webhook with signature + replay ID).
2. **Versioning**: v1 path + **compat headers**; additive changes via x-expansion fields; breaking changes only in v2.
3. **Security**: API key per tenant + HMAC response signing; webhook verification + retry/backoff contract.
4. **Golden Cassettes**: publish JSON fixtures + expected responses so clients can self-test.
5. **Compatibility Canary**: sandbox sim running next minor to detect client breakage early.
6. **Error Catalog**: stable error codes with remediation text (e.g., VALIDATION\_MISSING\_COUNTRY, fix hint).

**Acceptance**

* OpenAPI v1 published with examples and **golden tests**.
* Webhooks deliver at-least-once with idempotent receivers.
* Signatures verified end-to-end in sample clients.

**Innovations**

* **CIR on intake**, **CBT/LRT echo** on gatecheck.
* **Golden Cassettes** + **Compatibility Canary** to prevent surprise breaks.