

Enterprise Deliverable — technical due diligence

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1. intent & constraints

- intent: Hardened, privacy-first system for enterprise workloads
- deliverables: report, web, api
- constraints: team=6, timeline=12w, region=eu, pii=true, payments=true

2. requirements

- functional: F-1 core, F-2 auth, F-3 persistence
- non-functional: latency p95 \leq 250ms; availability \geq 99.5%; cost \leq \$1000/mo

3. architecture

baseline: Next.js + Node API on Cloud (custom); db=Managed Postgres (EU);
auth=Hosted Auth (OIDC/OAuth)

```
flowchart LR
  Client-->Edge[Edge/CDN]
  Edge-->Svc[API]
  Svc-->DB[(DB)]
  Svc-->Auth[Auth]
  Svc-->Queue[(Queue)]
```

alternatives: Alt1: Monolith; Alt2: Modular services rationale: team=6, exp=advanced, pii=true, payments=true, region=eu

4. security & privacy (stride)

- S: OIDC/OAuth, short-lived sessions | T: Parameterized queries, signed requests | R: Append-only audit log | I: Private buckets, signed URLs, DLP on PII | D: Rate limiting + backpressure | E: RBAC + least privilege data classification: PII • residency: EU

auto-inclusions: PCI Note: Use hosted checkout (e.g., Stripe Checkout) to stay in SAQ-A scope. GDPR/CCPA: Add consent, retention policy, and DPA with vendors. EU Residency: Ensure databases and analytics are EU-hosted; add SCCs if needed.

5. tests & enforcement

coverage: now 80% → rc 90%; mutation modules: auth performance SLOs and failure budgets defined.

6. delivery plan

P1 (6w): Auth + Core CRUD + Basic tests • P2 (6w): Analytics + Polishing + Docs
risks: scope creep; under-specified NFRs → mitigations: explicit ACs; phased delivery; guardrails in CI