

LAYER 8

Enterprise Procurement Pack

Execution Governance & Resilience Infrastructure

Confidential — Board-Level Overview

1. Executive Overview

Layer 8 is an execution governance layer that separates billing validation from operational authorization. It ensures deterministic and fail-closed execution across SaaS environments.

2. Enterprise Risk Problem

- Stripe billing confirmation does not equal execution authorization.
- Automation systems often execute without runtime entitlement checks.
- Refunds and chargebacks may not immediately revoke access.
- Lack of deterministic state enforcement increases compliance exposure.
- AI and automation require traceable authorization control.

3. Architectural Model

- Billing Layer (Stripe)
- Webhook Signature Verification (HMAC validation)
- Subscription State Machine
- Entitlement Mapping Engine
- Execution Gateway Endpoint (/access)
- Global Kill-Switch Control
- Audit-Ready Failure Reason Codes

4. Governance Control Principles

- Fail-Closed by Default
- Deterministic State Transitions
- Runtime Feature Enforcement
- Immediate Revocation on Refund/Chargeback
- Explicit Denial Reasons
- Separation of Billing and Execution

5. Compliance & Regulatory Positioning

- Aligned with ISO 27001 access control philosophy
- SOC2 audit-friendly deterministic authorization
- AI Act compatible traceable execution logic
- GDPR-aligned runtime consent-aware enforcement
- Operational resilience support (DORA / NIS2 positioning)

6. Incident & Kill-Switch Model

Layer 8 includes an operational kill-switch enabling immediate execution halt across services. This does not affect billing records but stops runtime execution deterministically.

7. Deterministic Failure States

- trial_expired
- revoked
- feature_not_allowed
- inactive_status
- system_paused
- not_found

8. Security Assurances

- Webhook signature verification enforced
- Idempotent event handling
- Runtime entitlement enforcement mandatory
- Execution blocked without explicit approval state
- All denials auditable and explainable

9. Integration Summary

- Stripe configuration (Products, Prices, Webhook)
- Layer 8 Worker deployment
- Runtime /access validation before execution
- Subscription state synchronization
- Operational monitoring and logging

10. Board-Level Summary

Layer 8 transforms SaaS billing confirmation into deterministic execution governance. It reduces compliance risk, strengthens runtime control, and provides audit-ready operational resilience infrastructure.

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