

BOS – Core Technical Appendix

MANDATORY FOR DEVELOPERS

This document defines nonnegotiable technical contracts for implementing BOS. Every developer must read and follow this appendix before writing any production code.

1. Event Store – Technical Contract

- BOS is eventfirst. All truth is expressed as immutable events.
- No deletes, no overwrites. Corrections are new events.
- Every engine must emit events using a unified schema.

2. Mandatory Event Schema

- event_id (UUID), event_type, event_version
- business_id, branch_id (nullable)
- source_engine and actor (human, system, device, AI)
- reference object, payload (versioned), timestamps
- correction_of and provisional flags

3. Engine Access Rules

- Each engine may write only its own events.
- Crossengine communication is readonly via queries or events.
- BI and AI never write operational data.

4. Actor & Identity Model

- Every event has exactly one actor.
- Actor types: Human, System, Device, AI.
- AI is advisory only and cannot execute operations.

5. OfflineFirst Rules

- Offline events are marked provisional.
- Synchronization preserves event order.
- Conflicts require human review. No silent merges.

6. Permissions Model

- Role defines responsibility.
- Permission defines atomic action.
- Scope defines data boundary (business, branch, project).

7. Data Lifecycle & Retention

- Events are never deleted.
- Financial data is immutable.
- PII is masked after retention period.
- Biometric references are deleted after exit + retention.

8. Config vs Data vs Code

- Country rules, VAT and compliance are configuration.
- Operational facts are data.
- Engines and validators are code.

9. Deployment & Migration Rules

- Schema changes are additive only.
- Feature flags control rollout per business.
- Rollback is done by disabling, not deleting.

10. Human Review States

- REVIEW_REQUIRED, DISPUTED, CONFIRMED, REJECTED.
- Used for cash differences, inventory variance, offline conflicts, AI advice.

Final Doctrine

- If an action cannot be explained as an event, corrected safely, and audited clearly — it does not belong in BOS.