

BOS – Inventory Engine

HOW INVENTORY BECOMES TRUTH (Official Document)

Single Source of Stock Truth, Event-Based & Audit-Ready

1. Core Doctrine

Inventory in BOS represents physical reality, not assumptions. All stock movements are captured as explicit events that explain why quantities change.

2. Inventory Event Model

Every change in inventory is recorded as an Inventory Event. Events include stock received, sold, reserved, consumed, returned, damaged, transferred, and adjusted. Silent updates are not permitted.

3. Item Types & Units

The engine supports retail items, ingredients, workshop materials, and non-stock items. Each item has a base unit and explicit conversion rules to avoid ambiguity.

4. Location Awareness

Stock is always associated with a specific business, branch, and location such as store, warehouse, kitchen, or workshop floor. Inventory cannot exist without a defined location.

5. Reservation & Availability

Reservations reduce available stock without reducing physical stock. They are used for remote carts, workshop projects, and restaurant orders to prevent overselling.

6. Consumption Logic

Stock consumption depends on the source engine. Retail consumes stock on sale completion, Restaurant consumes ingredients on order confirmation or preparation start, and Workshop consumes materials based on cut list execution.

7. Returns, Wastage & Damage

The engine records returns, wastage, spoilage, and breakage with mandatory reasons and role-based approvals to preserve auditability.

8. Internal Stock Transfer (Branch ↔ Branch)

BOS supports internal stock transfers strictly within the same business. Transfers are not sales and do not generate revenue or tax. The transfer lifecycle includes initiation, reservation, dispatch, in-transit tracking, receipt confirmation, and exception handling for partial receipt, loss, or damage.

9. Transfer Controls & Security

Transfers are protected by hard business boundaries and role permissions. Cross-business or cross-tenant transfers are not possible. All transfer actions are fully audited.

10. Stock Count & Reconciliation

Physical counts are compared against system quantities. Differences are recorded as adjustment events rather than overwriting values.

11. Alerts & Reorder Signals

Low stock thresholds and anomaly patterns trigger alerts. AI may recommend actions but cannot execute purchases automatically.

12. Inventory & Accounting Relationship

Inventory feeds accounting with movement data. Accounting does not modify inventory. Internal transfers affect stock location but not profit or tax.

13. What the Inventory Engine Is Not

The engine does not guess stock levels, does not perform accounting postings, and does not automate procurement decisions.

14. Final Doctrine

The BOS Inventory Engine enforces disciplined, explainable, and auditable stock control that reflects physical reality across all business operations.