04 – Payment Integrity Control Protocol

SVS (Oh-Dish Backoffice) – Startup Simulation

Document Type: Protocol

Prepared By: QA– SH (Representative Protocol/Report)

Version: 1.0

Date: February 14, 2026

Status: Draft (Portfolio Simulation)

Note: This is a representative artifact created to simulate real enterprise processes in a startup environment. Use with the Agile Enterprise Framework docs as supporting analysis.

Approvals

Role	Name	Signature	Date
Engineering Lead	_____	_____	_____
QA Lead/Mentor	_____	_____	_____
Security/Compliance	_____	_____	_____
Stakeholder/UAT Rep	_____	_____	_____

Revision History

Date	Version	Author	Description
February 14, 2026	1.0	QA– SH	Defines controls to prevent revenue loss, fraud, and reconciliation mismatches

Table of Contents

1. Purpose

Payments are the highest revenue risk area. This protocol defines mandatory controls and QA validation steps to prevent double-charges, orphan payments, incorrect totals, and missing audit evidence.

2. Critical Payment Risks

- Payment captured but order not persisted (or incomplete DB write)
- Order persisted but payment not captured (unpaid fulfillment)
- Duplicate charge due to retries/timeouts
- Mismatch between POS totals and gateway amounts
- Refund/void inconsistencies and audit gaps
- Unauthorized refunds due to RBAC issues

3. Mandatory Controls (Must-Have)

Control	Description	How QA Verifies	Evidence
Idempotency Key	Prevents duplicate charge on retry	Trigger retry; confirm single capture	Gateway logs + order record
Atomicity / Rollback	Payment+order persistence must be consistent	Simulate DB failure after gateway success	Reconciliation exception + DB checks
Reconciliation Job	Detects mismatches/orphan payments	Create orphan; confirm it is flagged	Reconciliation report
RBAC Refund Control	Refund requires correct permission	Attempt refund with cashier role	403 + audit log
Audit Logging	Every payment action logged	Verify audit trail for pay/refund/fail	Audit export

4. Test Scenarios (Failure Modes)

Execute these in QA and at least once in Staging rehearsal:

1. Gateway timeout → retry → ensure single charge (idempotency).
2. Gateway success + DB write failure → ensure no order marked Paid; orphan flagged for reconciliation.
3. Gateway failure → ensure order stays Unpaid/Failed; inventory not decremented.

4. Partial network failure after payment request sent → ensure system resolves state (Pending→Final) without double-charge.
5. Refund success → report totals updated; audit recorded; reconciliation clean.
6. Refund failure → no partial refund state; user message includes reference id.

5. Reconciliation & Exception Handling

Reconciliation minimum fields: transaction_id, correlation_id, order_id, amount, status, timestamp, branch_id.

Exception types: Orphan Payment, Orphan Order, Amount Mismatch, Duplicate Capture, Refund Mismatch.

Expected handling: auto-retry (safe), manual review queue, or auto-refund based on business rule.

6. Evidence Requirements

- Gateway transaction log snippet (no sensitive card data)
- Order DB record (order_id, status, totals)
- Reconciliation exception report entry (if any)
- Audit log entry for pay/refund
- TestCafe run report + screenshots on failures

7. Release Gate Checks (Payments)

- 0 unresolved orphan payments in staging
- Critical payment flows pass ≥95% in staging smoke/regression
- Refund and reconciliation scenario executed at least once per PI
- RBAC refund permission validated for cashier vs manager roles

Supporting Analysis References (Framework Docs)

- 01_Agile_Operating_Model_v3.docx – Operating cadence, teams, CI/CD gates
- 02_Epics_and_Features_v3.docx – Module scope and backlog structure
- 03_User_Stories_v3.docx – Sample story formats + acceptance criteria patterns
- 04_Kanban_Board_Structure_v3.docx – WIP/SLAs/flow metrics
- 05_Lean_Principles_Application_v3.docx – Lean practices + evidence artifacts
- 06_PI_Planning_Simulation_v3.docx – 6-sprint PI plan + dependency matrix
- 07_Quality_Governance_Model_v3.docx – Exit criteria + Go/No-Go matrix
- 08_Metrics_and_Reporting_v3.docx – KPI dictionary + charts