### 29 - Final Summary & Implementation Roadmap

\*\*29.1 Phased Implementation Approach\*\*

- \*\*Phase 1\*\*: Core Sync Setup

- Webhook structure

- Basic queue & retry logic

- Inventory + Sales sync modules

- \*\*Phase 2\*\*: Reliability Enhancements

- Retry engine with backoff

- Sync health dashboard

- Shop conflict resolution interface

- \*\*Phase 3\*\*: Performance Optimization

- Delta sync & compression

- Real-time WebSocket layer

- Shop device & API gateway security

- \*\*Phase 4\*\*: Expansion & Analytics

- Multi-tenant support

- Full dashboard and logging

- Reports, usage tracking, and versioned schema evolution

\*\*29.2 Core Modules Checklist\*\*

- [x] Inventory Sync

- [x] Z-Report Sync

- [x] Loyalty Points Sync

- [x] Conflict Resolution System

- [x] Backup & Recovery Setup

- [x] WebSocket Architecture

\*\*29.3 Priority Deliverables\*\*

- Sync Preview Tool

- Queue Dashboard

- Retry & Failure Alerts

- Versioning Control Layer

- Role-based Access & Cron Control

\*\*29.4 Recommended Stack\*\*

- Backend: Frappe Framework (Python), Redis Queue, REST + WebSocket

- Frontend: Vue.js or React (Admin UI + Log Viewer)

- Monitoring: Grafana + Prometheus or Frappe Custom Dashboards

\*\*29.5 Post-Go-Live Checklist\*\*

- Load testing with production volume

- Conflict simulation drill

- Failover backup test

- Daily report review & metric benchmarks

\*\*29.6 Ongoing Improvements\*\*

- AI-based conflict detection

- Predictive sync failure alerts

- Offline-first rewrite for POS