Software Technical Specification Example

***Project:*** Warehouse Integration of OpenBoxes to ShipStation – Order Mapping

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# Overview

Integrating OpenBoxes (WMS) with ShipStation (TMS) to automate outbound order creation, tracking number updates, and handling of voided shipments.

# Scope

This integration covers outbound orders shipping from OpenBoxes to ShipStation for parcel carriers in the USA.

# Systems Involved

OpenBoxes WMS, ShipStation TMS, Internal OMS Layer.

# Business Rules & Logic

Orders must exist in OpenBoxes before they are sent to ShipStation. Only orders with a status of READY\_FOR\_SHIPMENT will be processed. Voided shipments in ShipStation will update the order status in OpenBoxes to CANCELLED.

# API Endpoints Used

OpenBoxes:

* /api/shipments (GET)

ShipStation:

* /orders/createorder (POST)
* /shipments/voidlabel (POST)
* /webhooks/subscribe (POST) [or manually add webhook listener]

# Error Handling & Retry Logic

Retry API calls up to 3 times with exponential backoff. Log all failures and send alerts for manual review.

# Edge Cases

Handle invalid addresses, missing product SKUs, API rate limits, and ShipStation service outages.

# Security Considerations

Use API keys securely stored in environment variables. Ensure HTTPS communication between systems.

# Open Questions / Risks

Handling partial shipments and split orders. Confirm timezone handling for all date fields.

# Data Mapping Table: Orders and Shipments

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity** | **OpenBoxes Field** | **ShipStation Field** | **Notes** |
| Order | shipmentId | orderNumber | Primary identifier |
| Order | recipient.name | shipTo.name | Recipient full name |
| Order | recipient.address1 | shipTo.street1 | Address Line 1 |
| Order | recipient.city | shipTo.city | City |
| Order | recipient.state | shipTo.state | State |
| Order | recipient.postalCode | shipTo.postalCode | ZIP Code |
| Order | recipient.countryCode | shipTo.country | Country Code |
| Shipment | trackingNumber | tracking\_number | Returned from ShipStation webhook |