MUKHA / CONSULTING DELIVERABLE SAMPLE

System Clarity Review

Order-to-fulfillment integration

FICTIONAL DEMONSTRATION

Harborline Parts is an invented organization. All systems, walkthroughs, records, findings, and evidence identifiers in this report are synthetic examples created solely to show the format and depth of a Mukha System Clarity Review.

PREPARED FOR	PREPARED BY
Harborline Parts (fictional) Operations + Technology leadership	Mukha LLC Independent technical assessment

Illustrative review | Version 1.0

Understand the system. See the dependencies. Decide what matters next.

Not a penetration test, code certification, compliance assessment, or implementation proposal. Any real engagement is bounded by its own signed statement of work.

01 / DECISION BRIEF

Executive summary

One defined workflow was reviewed: the path from an online order to ERP registration, warehouse fulfillment, and customer-facing status updates.

PRINCIPAL CONCLUSION

The synthetic record points to a coordination problem rather than a single defective application: unclear ownership of order state, inconsistent retry handling, and a nightly inventory feed create failure modes across system boundaries.

What matters now

FINDING	PRACTICAL CONSEQUENCE	ACTION
F01 | High	An ERP timeout can cause an order to be submitted again with no shared idempotency key.	Define the unique order key, retry policy, and duplicate detection.
F02 | High	Commerce Portal displays inventory from the prior nightly export.	Publish feed freshness; define availability checks at checkout.
F03 | High	The integration account has broader ERP privileges than its stated job requires.	Reduce privileges and document service-account ownership.

Decision requested

Authorize a bounded reliability-and-ownership remediation plan before initiating a full platform replacement. The synthetic evidence does not support deciding that any one product must be replaced.

What this review does not establish

The sample does not measure incident frequency, prove an exploitable security vulnerability, calculate return on investment, or validate vendor contractual obligations. Those questions need separate evidence and, where appropriate, a separately scoped engagement.

02 / REVIEW BOUNDARY

Scope, method, and confidence

A focused assessment should make clear what was examined, which statements are observations, and where uncertainty remains.

Included in the fictional review

- Commerce Portal → Integration Service → ERP → Warehouse Platform order and status interfaces.
- Inventory freshness path from the ERP to Commerce Portal, including batch schedule and failure handling.
- Relevant role grants, redacted integration configuration, exception paths, ownership notes, and available runbooks.
- One technical walkthrough plus a bounded set of representative, redacted artifacts.

Not examined

- Production penetration testing, vulnerability scanning, ERP configuration outside the named integration, or direct access to customer personal data.
- Source-code review of vendor-owned Warehouse Platform and Carrier Gateway; full financial audit; enterprise-wide dependency inventory.

Illustrative evidence basis

ID	SYNTHETIC EXHIBIT	PURPOSE
E01	Walkthrough notes + order-flow sketch	Identify handoffs and declared owners.
E02	Redacted order/ERP request traces	Show retry and correlation behavior.
E03	Batch schedule + CSV schema	Inspect inventory update frequency.
E04	ERP service-account privilege matrix	Compare rights with documented integration duties.
E05	Field mapping and state definitions	Locate competing order-state authorities.
E06	Support playbook + exception queue example	Review manual recovery and reconciliation.
E07	Vendor API mapping sheet + test checklist	Review coupling and failure-path coverage.

INTERPRETATION RULE

“Observed” means illustrated by the invented exhibits above. “Risk” is an inference from the stated design, not proof that a real company experienced the outcome. In a live assessment, each finding would cite actual reviewed artifacts and access limitations.

03 / CURRENT STATE

How work moves today

Commerce Portal takes a sale; integration logic translates it for the ERP, which coordinates warehouse fulfillment and the resulting status updates.

Representative order journey

STEP	OWNER / HANDOFF	CURRENT PATTERN
01 · Capture	Commerce Portal	Creates a web order and shows an initial “received” status.
02 · Register	Integration Service → ERP	Transforms order payload and submits the ERP sales-order request.
03 · Fulfill	ERP → Warehouse Platform	ERP releases the order for warehouse picking and shipment.
04 · Ship	Warehouse Platform → Carrier Gateway	Warehouse produces carrier label and tracking response.
05 · Update	Integration Service → ERP + Commerce Portal	Completion and tracking status are mapped back into both systems.

Separate inventory path

ERP is described as the inventory system of record. A scheduled export feeds Commerce Portal once nightly. The displayed quantity can therefore be older than the inventory state used by fulfillment.

Working assumptions needing client confirmation

- ERP sales order number is the durable fulfillment identifier; Commerce Portal order ID is the original customer transaction identifier.
- Warehouse Platform is a vendor-operated service and its internals are outside the review boundary.
- A review can use sanitized traces and read-only configuration; no live production changes are authorized.

BOUNDARY TO PRESERVE

Do not classify a failure as an “ERP problem,” “website problem,” or “vendor problem” before the handoff where it originates is traceable. System boundaries are where ownership and recovery need to be explicit.

04 / DEPENDENCY MAP

Where an order depends on another system

Illustrative architecture. Names, links, and flows are fictional; the diagram demonstrates the mapping a client would receive for its actual reviewed scope.

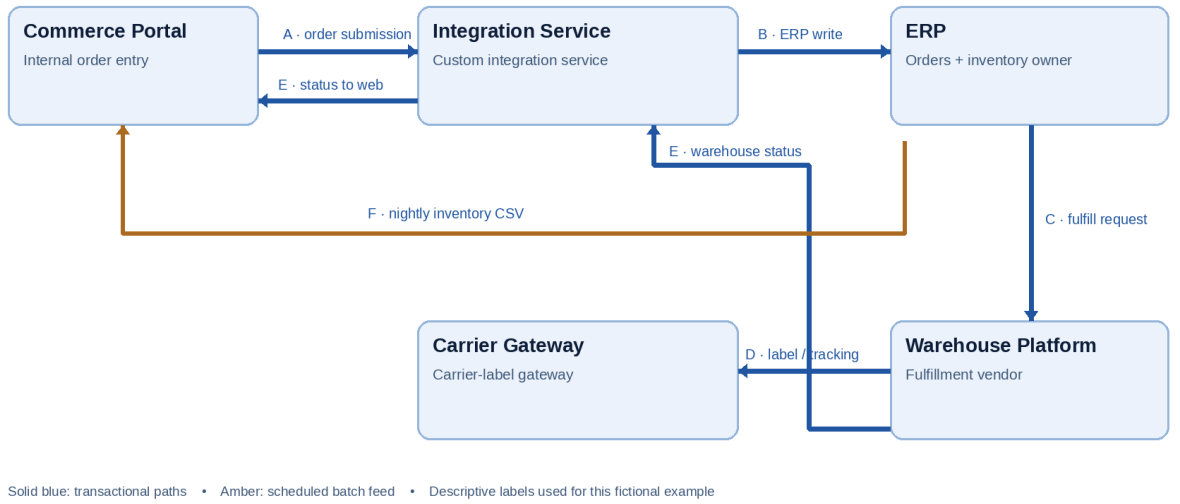


Figure 1. Directional dependency map; arrow letters refer to the interface inventory below. The carrier gateway represents the external label/tracking service used by the warehouse vendor.

Interfaces and failure boundary

FLOW	DEPENDENCY	IF THE HANDOFF FAILS
A–B	Commerce Portal → Integration Service → ERP	Order may exist only upstream or may be retried without confirmation.
C–D	ERP → warehouse → carrier gateway	Fulfillment or tracking updates can lag an accepted ERP order.
E	Warehouse status → integration → Commerce Portal	A shipped parcel may still appear “processing” to the customer.
F	ERP → nightly inventory export → Commerce Portal	Displayed availability can diverge from ERP availability.

Diagram notation: logical data path, not a verified network topology or security trust-boundary diagram.

05 / OWNERSHIP MODEL

System roles and source-of-truth decisions

The same status can mean different things at different stages. A useful review identifies where data originates and who is authorized to change it.

COMPONENT	ROLE IN SCOPE	OWNERSHIP / OPEN QUESTION
Commerce Portal	Captures order and presents customer status.	Owns initial order ID; should display a derived fulfillment status.
Integration Service	Transforms, transmits, retries, and maps responses.	Must preserve correlation IDs; operator/recovery ownership is unclear.
ERP	Registers sales order and owns inventory balance.	Proposed order/stock authority; confirm with business owner.
Warehouse Platform	Picks, packs, and records actual dispatch.	Owns warehouse events; vendor contract and API limits not validated.
Carrier Gateway	Produces carrier label/tracking via vendor workflow.	External dependency; direct Mukha/client access not assumed.

Three explicit data decisions

Order identity. Keep the original Commerce Portal ID as a stable external reference; attach the ERP number when returned. Do not generate a new order on ambiguous retry.

Inventory availability. Distinguish a display estimate from the availability decision at checkout. Define allowable age and the behavior when the feed is stale.

Fulfillment status. Specify which source owns “accepted,” “allocated,” “picked,” “shipped,” and “cancelled”; document allowed transitions and reconciliation authority.

CONTROL TO ADD

A one-page field-and-state ownership matrix should be approved by both business operations and the integration owner before changing synchronization logic.

06 / FINDINGS

Reliability and inventory

Each finding separates the illustrated observation, plausible consequence, recommended change, and an explicit verification test.

F01 Ambiguous retries can duplicate ERP orders

Priority / confidence HIGH / moderate confidence

Observed in this scenario E02 shows an Commerce Portal order submitted twice after an ERP timeout; the synthetic trace contains no stable idempotency token shared by both requests.

Illustrative evidence E02 request/response trace; E01 handoff walkthrough.

Why it matters A timeout does not establish whether the ERP accepted the first request. Retrying as a fresh order can create duplicate fulfillment or manual rework.

Recommended action Establish an immutable external order key; make downstream submission idempotent where supported; otherwise check existing ERP state before replay. Add a reconcile-on-unknown outcome.

How to verify In a controlled test, timeout the first acknowledgment and retry the same order. Confirm one ERP order, an auditable outcome, and no duplicate warehouse release.

F02 Inventory feed lacks a usable freshness control

Priority / confidence HIGH / high confidence

Observed in this scenario E03 specifies a single nightly ERP-to-Commerce Portal export; the sample interface does not display feed age or set behavior when the job misses its window.

Illustrative evidence E03 schedule, schema, and status sample.

Why it matters A buyer may see an availability estimate that no longer matches the ERP balance, causing exceptions during order acceptance and fulfillment.

Recommended action Expose last-successful-sync time, failed-run alerting, and an agreed stale-feed threshold. Validate inventory with the ERP at the point of commitment if the workflow supports it.

How to verify Simulate one missed import; confirm alerting, visible stale-data handling, and an auditable checkout decision.

07 / FINDINGS

Access and order-state ownership

The review can identify apparent access and ownership risks; it does not certify security or prove the presence of an exploitable vulnerability.

F03 Integration identity exceeds documented duties

Priority / confidence HIGH / moderate confidence

Observed in this scenario The fictional privilege matrix lists write access to ERP areas unrelated to order creation and shipment status synchronization.

Illustrative evidence E04 redacted access matrix; E01 declared integration purpose.

Why it matters Compromise or misuse of the service account could affect a wider ERP surface than the integration requires. Actual exploitability was not tested.

Recommended action Assign an accountable owner, inventory exact API operations, replace broad grants with least-privilege access where the ERP supports it, and document rotation/revocation.

How to verify Demonstrate required order and status operations still succeed with the narrowed role; confirm unrelated ERP operations are denied.

F04 Order-status ownership is ambiguous

Priority / confidence MEDIUM / moderate confidence

Observed in this scenario E05 shows both ERP and Commerce Portal able to write a generic “complete” field without defined precedence after late warehouse events.

Illustrative evidence E05 field map and sample status-transition notes.

Why it matters Late or out-of-order updates can overwrite a newer status and produce conflicting customer-service views.

Recommended action Approve canonical states and a transition matrix; accept only valid forward transitions or an explicitly authorized correction event.

How to verify Replay delayed shipment and cancellation events out of order. Confirm customer status, ERP state, and audit history remain consistent.

08 / FINDINGS

Recovery and external coupling

The most valuable remediation is often a clearer operating contract between systems, not more components.

F05 Exceptions lack a complete recovery runbook

Priority / confidence MEDIUM / moderate confidence

Observed in this scenario E06 includes manual replay instructions but no stated pre-replay existence check, operator approval, or daily ERP-to-Commerce Portal exception reconciliation.

Illustrative evidence E06 playbook and synthetic queue example.

Why it matters Operators may reprocess the same order differently, allowing unresolved mismatches to persist after the initial incident closes.

Recommended action Add a concise exception classification, before/after checks, designated owner, and reconciliation report for unresolved orders.

How to verify Give a second operator a synthetic failed order; verify that the runbook yields the same safe resolution and a recorded audit trail.

F06 Vendor mapping has untested failure paths

Priority / confidence MEDIUM / limited confidence

Observed in this scenario E07 documents a warehouse-specific status mapping; the provided test checklist covers successful responses but not unknown codes, rate limits, or duplicate callbacks.

Illustrative evidence E07 mapping sheet and synthetic test checklist; vendor internals not reviewed.

Why it matters A provider change or unexpected response may break status updates or silently map a new status into the wrong state.

Recommended action Introduce an explicit adapter contract and contract tests for unknown status, replay, delayed callbacks, and non-success responses; assign vendor-change ownership.

How to verify Run representative tests against the vendor sandbox or an agreed contract fixture and confirm errors are visible and recoverable.

09 / PRIORITIES

A practical order of operations

Priority indicates which fictional risks merit earlier validation and remediation. It is not a numerical security score or prediction of incident likelihood.

NOW / NEXT	WORK PACKAGE	DONE WHEN
NOW · 01	F01: identify order-key and retry contract	One order survives an ambiguous ERP timeout without duplicate creation.
NOW · 02	F02: stale inventory response + feed visibility	A missed export is visible and checkout does not silently trust stale data.
NOW · 03	F03: constrain integration account	Required operations pass with minimal approved privileges.
NEXT · 04	F04: approve owner/state matrix	Late events cannot overwrite a later valid business state.
NEXT · 05	F05: reconcile and document safe replay	Open exceptions have one owner and a repeatable recovery path.
NEXT · 06	F06: vendor contract tests	Unknown or repeated callback never silently corrupts status.

Quick wins that do not require replacing a platform

- Publish inventory feed age and add a failure alert; this reveals the condition before a redesign is approved.
- Add an end-to-end order correlation key to logs; preserve the key from first customer action through ERP registration.
- Agree on one exception owner and a twice-weekly reconciliation review until automated control is in place.

Decisions to make before implementation

Choose the ERP/Commerce Portal identity contract; approve an acceptable inventory-freshness threshold; confirm which statuses belong to the warehouse; authorize the scoped ERP access review. Each decision needs a named business owner and a technical sign-off.

IMPORTANT DISTINCTION

The measures above are proposed controls. This sample does not claim that they were deployed or that they produced measured improvements. A real implementation would record baseline values and demonstrate outcomes.

10 / ACTION PLAN

Illustrative 30 / 60 / 90-day roadmap

The roadmap is a planning example, not a guaranteed timeline or a commitment to implement. Actual sequencing depends on ownership, data access, vendor constraints, and an approved SOW.

WINDOW	OWNER TO CONFIRM	OUTPUT / ACCEPTANCE CHECK
Days 0–30 Stabilize visibility	Integration lead + ERP owner	Correlation ID specification; stale-feed alert; agreed recovery owner; sample failure-path tests.
Days 31–60 Make handoffs safe	Integration lead + operations	Idempotent submission or safe existence check; reduced ERP role; approved status-state matrix; repeatable failure tests.
Days 61–90 Harden and hand off	Operations + vendor manager	Exception reconciliation; vendor contract-test suite; updated on-call playbook; retained evidence of test results.

Implementation gates

Gate 1 — Agreement. Business and technical owners approve order identity, inventory freshness, and the supported recovery path.

Gate 2 — Safe change. Test and rollback plans are reviewed; production change authority and maintenance windows are explicitly designated.

Gate 3 — Demonstrated result. Each remediation has a reproducible scenario and evidence of observed behavior; outstanding limitations are recorded.

Metrics to establish before work begins

Duplicate-order exceptions, age of last successful inventory sync, unresolved reconciliation items, integration permission inventory, and recovery time for one representative failed order. No baseline or target is asserted in this fictional sample.

11 / HANDOFF

Decisions, next actions, and boundaries

The report is designed to support a specific client decision rather than become another piece of documentation that nobody uses.

Client decision register

DECISION	ACCOUNTABLE PARTY	NEXT INPUT NEEDED
Approve external order key and retry contract	Business process owner + ERP owner	Current ERP duplicate-handling capability.
Set inventory freshness rule	Sales operations + ERP owner	Checkout behavior and business tolerance for stale quantities.
Approve integration account rights	ERP security owner	List of required ERP operations and access grants.
Confirm canonical status owner	Operations + warehouse vendor manager	Signed-off state and event definitions.

Suggested next engagement, if requested

A separately scoped implementation phase could address F01–F03 first, with named client approvers, a test environment, rollback plan, and measurable acceptance criteria. The assessment itself authorizes no remediation, production modification, or vendor commitment.

Limitations and reliance

This entire report is a fictional demonstration, not an actual assessment or testimonial. In a live System Clarity Review, findings are limited to the agreed systems, artifacts, access, and review period. Observations about access do not constitute a penetration test, formal security audit, or regulatory certification. The client retains responsibility for operational decisions and production change approval.

What the client receives

A scoped current-state explanation, dependency map, evidence-linked findings, prioritized recommendations, decision register, and a practical next-action plan — delivered as a written report and discussed in one findings session.

SAMPLE ENDNOTE

Prepared by Mukha LLC • mukha.io • contact@mukha.io. The company, systems, evidence excerpts, risk descriptions, and recommendations are illustrative and invented for demonstration; no client data or employer materials were used.