ForgeFlow Steel ERP / EDI Integration

A domain-realistic order-to-cash integration design without employer or customer data

SYNTHETIC DEMO - BASED ON GENERAL ERP / STEEL DOMAIN EXPERTISE

Scenario

A fictional steel distributor receives partner orders, validates material and commercial constraints, plans partial deliveries, assigns batches or coils and returns acknowledgements, dispatch advice and invoices. The example is deliberately synthetic; it demonstrates methods rather than a named workplace implementation.

Business objects

Order	Partner, customer reference, requested date, currency and status.
Line	Material, grade, dimensions, quantity, unit and tolerances.
Allocation	Warehouse, batch or coil, available weight and reservation state.
Delivery	Partial quantity, package, transport and dispatch state.
Invoice	Delivered quantity, price conditions, tax and reference chain.

Message flow

- Inbound order is stored immutably and receives a technical acknowledgement.
- Syntax, partner profile, master data and process-state validation run separately.
- A stable partner/type/document key prevents duplicate orders during retries.
- Business acceptance or rejection returns explicit reason codes.
- Delivery and invoice messages reference the accepted order and actual allocated quantities.

Failure handling

Unknown delivery outcomes are reconciled before replay. Invalid master data enters a work queue with the original message, normalized view, validation result and owner. Corrections create a new version or controlled replay; they do not overwrite the evidence trail.

Implementation shape

C#/.NET services separate transport adapters, mapping profiles, validation and ERP domain commands. SQL constraints enforce business keys and state transitions. OpenAPI covers synchronous management endpoints while EDI messages retain partner-specific profiles. The downloadable CSV shows a sanitized mapping pattern.

Scope note: factual claims follow the public claim register at docs.mk1.rocks/claims.json.