## SCENARIO 2 – LEGACY ERP STABILIZATION & MODERNIZATION

Executive Summary

DataSync Corp relies on a 15-year-old legacy ERP system, "LegacyPro," which now contributes to 29% of total production downtime, generates weekly outages for manual patching, and incurs rising maintenance costs. With vendor support set to end in 18 months, a strategic transition is urgently required to protect $480M in annual revenue and ensure compliance across financial, supply chain, and HR systems.

We propose a **two-phase modernization roadmap**:

- **Phase I – Stabilization (0–12 months):** Migrate the database tier to Oracle Exadata Cloud via lift-and-shift, establish a dedicated Dev/Test environment, apply the latest CPU/RUP bundles, and automate regression testing using Selenium and PyTest. Introduce MuleSoft as an integration layer to decouple 41 point-to-point connections.
- **Phase II – Modernization (12–30 months):** Transition to Oracle Fusion SaaS for Finance, Supply Chain, and WMS. Decommission 27 customizations by re-engineering workflows to align with out-of-the-box functionality.

The proposed solution delivers a 5-year NPV of **$9.6M** (9% WACC) with a breakeven in **month 23**. If left unaddressed, technical debt and maintenance costs are projected to exceed **$14.2M** over the same period.

**Revised Detailed Analysis & Key Calculations**

**Current State Assessment**

The current "LegacyPro" ERP system, now 15 years old, exhibits critical performance and security deficiencies:

- **Average of 3 crashes per week**, resulting in 4 hours of downtime per incident.
- **Manual patching blackouts** lasting 6 hours weekly.
- Inability to support mobile access, cloud services, or modern reporting tools.
- Annual maintenance costs of **$1.2M**, rising at 15% per year.

- Over 165 custom integration points with downstream systems including Finance, Supply Chain, and CRM.

These deficiencies severely limit scalability, increase support burden, and pose compliance risks (SOX, GDPR).

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**Key Metrics Snapshot**

| Metric | Current | After Phase I | After Phase II |
|---|---|---|---|
| **Unplanned ERP Downtime (hrs/year)** | 71 hrs | 24 hrs | < 8 hrs |
| **Interface Failures (per week)** | 38 | 9 | < 3 |
| **Sales Order to Ship Lead Time (days)** | 5.6 | 4.3 | 3.1 |
| **IT Spend (5-Year TCO, $M)** | 18.7 | 17.1 | 15.4 |

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**Value Justification**

- **Downtime reduction** is achieved in Phase I via infrastructure migration to Oracle Exadata and automated regression testing—this ensures more stable, resilient uptime.
- **Interface failures** decline as MuleSoft iPaaS centralizes and standardizes integrations, eliminating brittle point-to-point custom code.
- **Lead-time improvements** follow streamlined workflows and modern UI in Oracle Fusion, boosting user efficiency and order processing.
- **IT TCO reduction** results from retiring legacy hardware, consolidating infrastructure, and reducing license complexity through SaaS licensing.

**Recommended Solution Stack**
To support the phased transition and long-term stability, we propose the following modern, cloud-aligned architecture:

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🔹 **Phase I – Stabilization Stack (0–12 Months)**

- **Oracle Exadata X9M (Cloud@Customer)**
  Lift-and-shift the existing database tier to a high-availability Exadata cloud instance, reducing downtime and patching windows while retaining core database familiarity. Estimated OPEX: **$380K/year**.
- **Dedicated Dev/Test Environment**
  Establish a parallel environment for automated regression testing using **Selenium** and **pytest** to prevent outages during updates and accelerate deployment readiness.
- **MuleSoft Anypoint Platform (iPaaS)**
  Introduce a canonical integration layer to decouple 41 legacy point-to-point interfaces. This improves maintainability, reduces failure points, and accelerates future SaaS adoption.

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🔹 **Phase II – Modernization Stack (12–30 Months)**

- **Oracle Fusion SaaS (SCM, Financials, WMS)**
  Transition to Oracle's cloud-native ERP suite for 1,250 users. This platform standardizes global workflows, reduces customizations, and ensures regulatory compliance (SOX, GDPR). Estimated SaaS cost: **$1.12M/year**.
- **Kyriba for Treasury**
  Replace fragile, homegrown PL/SQL cash management tools with Kyriba's modern treasury suite to enable real-time liquidity visibility and secure fund transfers.
- **Power BI (with Fusion OTBI federation)**
  Enable operational analytics with Power BI dashboards linked to Fusion OTBI views, empowering users with near-real-time decision support across finance and operations.

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Each tool has been selected based on compatibility, scalability, integration capability, and total cost of ownership (TCO) over the 5-year horizon.

**Implementation Plan & Timeline**

The modernization effort will be executed in two distinct phases over 30 months, with structured milestones to manage complexity, minimize business disruption, and ensure compliance.

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🔹 **Phase I: Stabilization (Months 0–12)**

| Month | Milestone / Activity |
|---|---|
| 0–2 | Finalize vendor contracts and subscriptions (Oracle Exadata, MuleSoft) |
| 2–4 | Provision cloud infrastructure and migrate database via lift-and-shift |
| 4–6 | Stand up Dev/Test environments and begin regression test automation |
| 6–8 | Deploy MuleSoft as iPaaS to abstract and decouple integrations |
| 8–12 | Conduct system stabilization and begin parallel data validation/testing |

**Key Workstreams:**

- Infrastructure Migration
- Integration Platform Rollout
- Regression Test Factory

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🔹 **Phase II: Modernization (Months 12–30)**

| Month | Milestone / Activity |
|---|---|
| 12–16 | Conduct fit-gap analysis for business processes across Finance, SCM, and WMS |
| 16–20 | Re-engineer processes to fit Oracle Fusion vanilla flows; finalize user roles |
| 20–24 | Execute iterative data migration sprints with validation checkpoints |
| 24–27 | Complete user training, mock cutovers, and environment finalization |
| 27–30 | Execute production cut-over, followed by hypercare and support transition |

**Key Workstreams:**

- Business Process Optimization
- Data Migration & Cleansing
- User Training & Cut-over Readiness

- Hypercare and Support Transition

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This timeline is designed to ensure that mission-critical functions remain operational, system continuity is preserved, and users are fully enabled to adopt the new platform by go-live.

**Risk & Mitigation Highlights**
The following risks have been identified for this ERP transformation project. Mitigation strategies are designed to maintain business continuity, reduce operational disruptions, and ensure stakeholder alignment throughout the transition.

| Risk | Impact | Mitigation Strategy |
|---|---|---|
| **Custom Bolt-on Failures** | High – LegacyPro contains over 150 custom integration points that may break when decoupled. | Implement MuleSoft iPaaS early in Phase I to act as a "fuse box" abstraction layer, allowing gradual integration refactoring while maintaining continuity. |
| **Data Quality Gaps** | Medium – Inconsistent legacy data could disrupt migration accuracy and reporting. | Conduct dual-write cleansing activities at least three months pre-go-live, with validation scripts and business owner sign-off. |
| **Change Fatigue Among Users** | Medium to High – Long project timelines can lead to disengagement or resistance. | Designate "Process Super-Users" for each business function with a 10% time backfill. These champions will assist with UAT, training, and peer adoption. |
| **Regulatory Non-Compliance Risk (SOX/GDPR)** | High – Failure to align data handling with evolving compliance standards could result in penalties. | Ensure data privacy mapping and audit trails are built into both integration and ERP layers; engage compliance officers early and throughout the project. |
| **Underestimated Cut-over Complexity** | High – Poor execution could trigger outages or transactional errors. | Run two full-scale mock cutovers and include rollback scenarios; |

| Risk | Impact | Mitigation Strategy |
|---|---|---|
| | | freeze non-critical changes two weeks prior to go-live. |

These mitigation plans will be tracked by the program management office (PMO) with escalation paths established via a risk governance structure.

**Success Metrics**

The following key performance indicators (KPIs) will be used to track the success of the ERP transformation effort. Each metric aligns with project phases and reflects improved stability, user productivity, and cost-effectiveness.

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- **Phase I Success Metrics (Stabilization – Months 0–12)**
  - **ERP Availability ≥ 99.9%** by Q4 post-transition to Oracle Exadata Cloud.
  - **Interface Errors Reduced by 75%**, from 38 to fewer than 10 per week by Month 12.
  - **Regression Test Automation Coverage ≥ 85%** for critical business flows.
- **Phase II Success Metrics (Modernization – Months 12–30)**
  - **Month-End Close Reduced** from 6 to 3 business days by the end of Q2 post-Fusion go-live.
  - **Sales Order Change Requests Decrease by ≥ 60%** within 12 months of go-live, reflecting more stable workflows.
  - **User Satisfaction ≥ 85%** based on post-implementation survey responses.
  - **Full Regulatory Compliance Achieved**, with successful internal audits post-migration (SOX, GDPR).

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**Monitoring Approach:**
All success metrics will be tracked via project dashboards managed by the PMO. Department heads and IT leads will receive bi-weekly metric summaries during Phases I and II, with formal milestone reviews at Months 12, 18, and 30. Variance thresholds will trigger corrective action planning.