

White Paper

# Avoiding Common Pitfalls of SCM-ERP Integration

Harnessing the advantages of a custom integration  
without the drawbacks of custom development

## Executive Summary

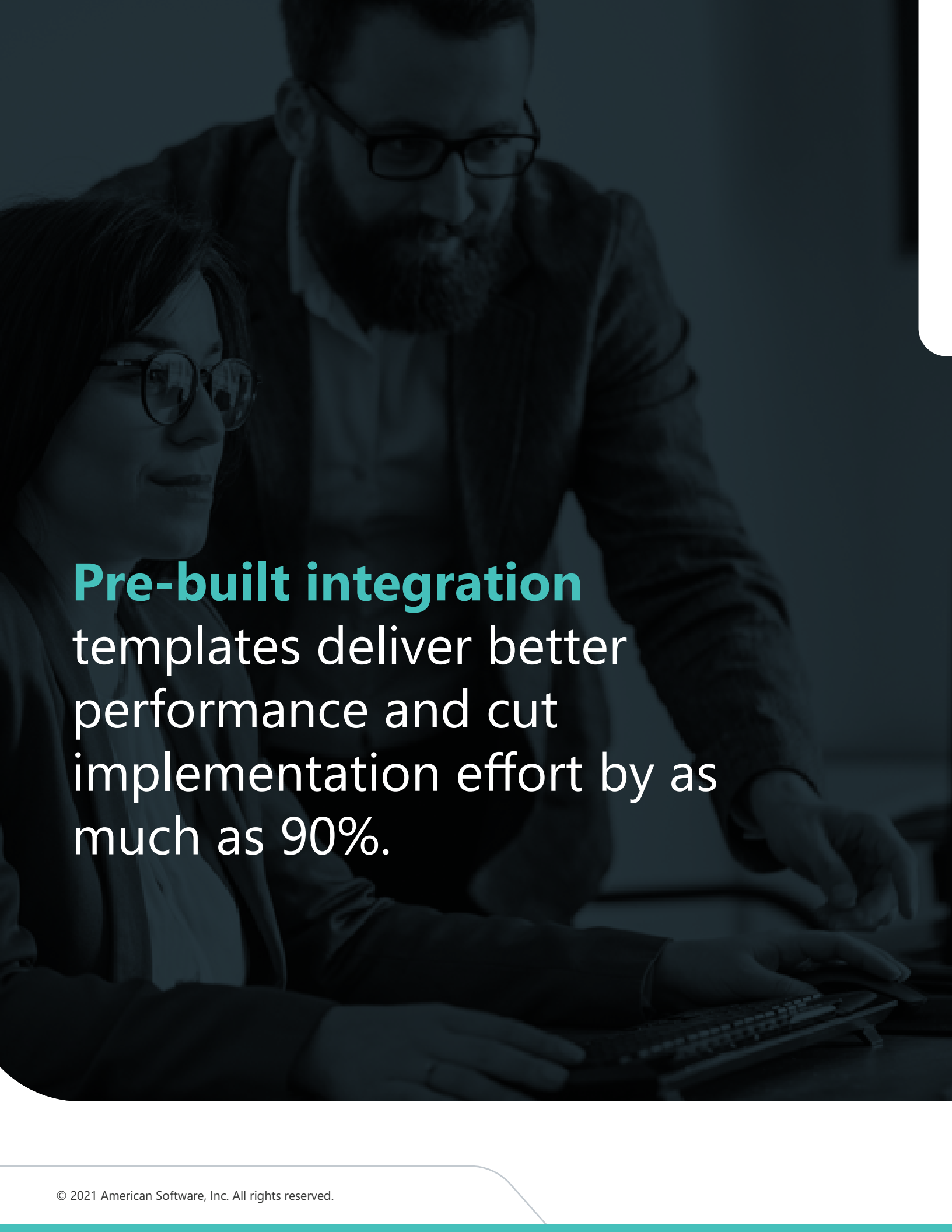
As supply chain teams demand the power of best-of-breed supply chain optimization solutions, the question becomes how best to integrate these powerful solutions with the organizations existing enterprise resource planning [ERP] and advanced planning and scheduling [APS] systems.

Creating an integrated SCM-ERP eco-system doesn't have to be a costly and complex journey if you choose a path that avoids common pitfalls. Some dangers are obvious, but others can remain hidden until they suddenly emerge to put the solution at risk. This white paper provides a guideline to help you select the right approach for your integration effort by comparing:

- Custom integration of SCM with ERP systems
- In this common approach, a development team of in-house IT and outside consultants design, develop, test, implement and support the integration as a unique custom solution.
- Logility's template-based integration of Logility with ERP systems
- Logility SCM-ERP integration projects use proven, pre-built data mappings and logic for as much as 90% of the integration scope, while the remainder is configured based on the organizations unique SCM requirements.
- This approach reduces the timeline, the team size, lowers cost and presents less risk. Logility can deliver high-performance ERP-to-Logility integrations in less time and at lower cost, and provide long-term value by continually upgrading software components to maintain currency with data model updates over time.

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A man with a beard and glasses, wearing a dark jacket, is leaning over a desk. A woman with glasses, also wearing a dark jacket, is sitting at the desk and looking at a computer screen. The background is dark and out of focus. The text is overlaid on the image in a light blue color.

**Pre-built integration**  
templates deliver better  
performance and cut  
implementation effort by as  
much as 90%.

# How to Avoid Common Pitfalls of SCM-ERP Integration

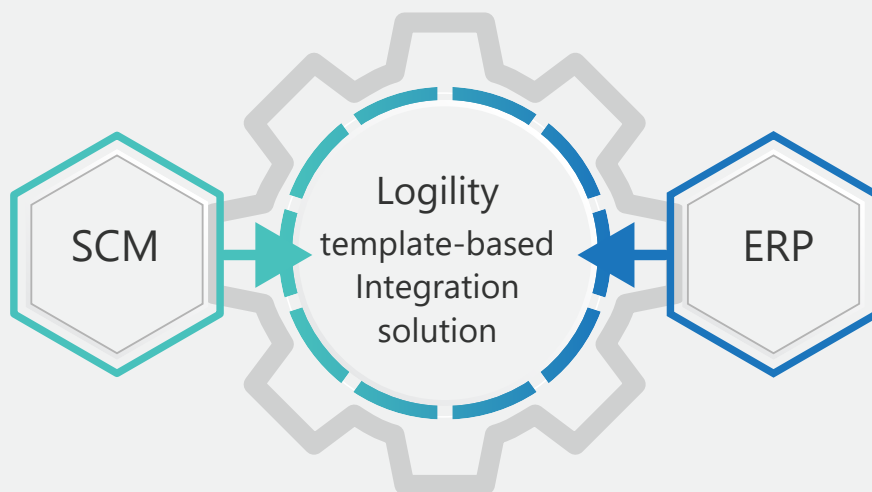
## 1 Cost and Effort

The majority of integration cost is driven by time and labor. Much of the pain associated with software deployments is caused by integration activities, which are notorious for being over budget and delivered late. Consider the following common pitfalls associated with an internally developed, custom integration approach, and how trouble can be avoided using Logility's approach to best-of-breed integration.

### **Pitfall: Using an integration team that does not have domain expertise in SCM, ERP and integration technology.**

- **Custom approach:**  
Don't underestimate the true cost, time and effort required to build a custom integration spanning three very different domains of expertise with many types of data moving in different directions at different speeds.
- **Advice:**  
Minimize the cost and time by opting for a very strong team. Ultimately, a strong team is far less costly than a weak team.
- **Logility advantage:**  
The Logility integration team has the required three-domain expertise to ensure successful and efficient project execution. Logility's SCM-to-ERP integration templates are pre-configured integrations designed to leverage the ERP data model to a matching Logility data model. This approach also provides the flexibility to integrate data from many other sources with ease. Embedded domain-specific elements paired with deep knowledge and experience outperforms other approaches.

### **Integrating ERP with Logility supply chain management**



## **Pitfall: Re-inventing what already exists escalates the cost, time and risk for an integration project.**

- **Custom approach:**  
A complete SCM-to-ERP integration contains thousands of detailed technical decisions. Even with top developers, the more software you develop the longer it will take and the more costly it will be.
- **Advice:**  
Most of the data required for SCM-to-ERP implementations [e.g. item, customers, vendors, stock, sales, purchases, production] are repeated project after project. Always look for integrators who not only bring tools and skills to the project, but also can bring pre-built components.
- **Logility advantage:**  
Using pre-built integration templates eliminates time spent on trivial data-mappings, and focuses energy on what makes the supply chain unique. Logility separates the integration component for the underlying ERP or SCM technology, eliminating the need to invent [specify, develop, test and debug] new components. This approach reduces risk, increases integration quality and shortens the pay-back period. Decreasing the number of design decisions lowers the number of errors and ensures cost-effective long-term success.

## **Pitfall: Underestimating the Total Cost of Ownership for an integrated solution can cause dramatic cost overruns.**

- **Custom approach:**  
Custom integration projects are, in essence, complex software development projects with multiple deep dependencies on applications and data consistency.
- **Advice:**  
For complex initial implementations, expect a long tail of heavy post-go-live support. It will be costlier to support the application as data sources and targets evolve over time. Your business process will also continue to change.
- **Logility advantage:**  
Logility follows an open integration approach that provides predictable low Total Cost of Ownership [TCO] even as the integration needs evolve over time. Logility's integration templates used for all SCM-to-ERP integrations are based on pluggable objects.

## Scalability and Speed

**Pitfall: Using an integration team that does not have domain expertise in SCM, ERP and integration technology.**

- **Custom approach:**  
While mature ERP installations can have millions of items and orders, only a small number actually change on a daily basis. Rather than settling for the slower trash-and-reload, a net change approach typically starts with a large initial load and then switches to a mode that recognizes what has been added, changed or deleted and only sends the updates.
- **Advice:**  
Insist on an integrator with proven ability to implement net change integration in order to avoid bad performance related to scalability and speed.
- **Logility advantage:**  
Logility's net change approach synchronizes a very large number of SKUs in less time by only exchanging data that has changed since the last update. This ensures scalability and speed. By reducing the load and return time, more time is available for high-value business optimization of the supply chain. It creates more time to do the important things for the business. Logility's integration templates are designed for net-change capability extending not only to ERP integration points but also to most external data sources.

## A net change approach is better than “trash-and-reload.”

**Pitfall: When the integration encounters production volume data for the first time, it fails.**

- **Custom approach:**  
When solutions are based on custom designs, the production performance will be unknown until very late in the project. Custom integrations often become sequence-dependent and fragile.
- **Advice:**  
Mitigate this risk by testing high-risk performance-sensitive elements early and often.
- **Logility advantage:**  
Logility's template-based approach ensures the solution can scale to meet even the most data-heavy integration requirements. Data-flows are structured to enable parallel processing early in the project, ensuring scalability. The integration does not have to run on the same server that hosts the ERP system or the Logility application, which provides more scalability.



## Sustainability

Real-world businesses do not stand still. The market is changing, processes are maturing and your integration needs to keep up so that it does not throttle your business.

**Pitfall: The inability to upgrade applications [whether ERP system, SCM application or the integration layer] is a major hidden problem waiting to attack the business at some point in the future. Having an effective approach to application upgrades is not only a cost and time saver, it also allows much faster adoption of improved functionality of all solution elements.**

- **Custom approach:**  
Custom-built integrations often face major obstacles during upgrades. Designs are often complex and the details not well understood or documented. To make matters worse, the developers of the original design may no longer be available.
- **Advice:**  
Keep in mind that organizations with significant custom-built integrations often find it impossible to upgrade, resulting in re-implementation or abandoning the solution completely.
- **Logility advantage:**  
Logility ensures that updated integration templates are available when customers upgrade their ERP or SCM applications. All of our templates have standard documentation so you will always know how the integration works. Logility's integration approach offers ongoing support for customer solutions, providing one source of accountability and unburdening the IT team.

**Pitfall: Key knowledge of the integration solution can become lost over time.**

- **Custom approach:**  
For custom integrations it may be difficult to ensure that knowledge of the integrated solution survives periods of organizational change. When there is a loss of knowledge continuity even minor enhancements can turn into major problems.
- **Advice:**  
Keep in mind that successive waves of developers will be free to create their own approaches which, over time, can result in convoluted spaghetti code.
- **Logility advantage:**  
Logility's integration templates contain detailed mappings of associated processing logic. They create a comprehensive framework for successive integration efforts. Because the template itself sets the design direction it is much easier for developers to create enhancements that can be understood and further extended by others.

## Flexibility

Many organizations have supply chains that encompass constraints or capabilities that are not well represented in the ERP data model. To fully unleash the power of the supply chain it is important that a data model is applied that conveys an accurate representation to the SCM application of where the true flexibility and constraints exist.

**Pitfall: The integration layer must be able to dynamically translate data from the ERP data model to the right SCM data model. In order to leverage the power of advanced supply chain applications the data must be presented intelligently and consistently.**

- **Custom approach:**  
Custom integration projects have ultimate flexibility with regard to the data models to be developed and supported in the SCM solution. Unfortunately, because of this, custom integration designs often become too complex to sustain or become so fragile that a failure at any point in the process necessitates restarting the whole integration.
- **Advice:**  
Look for integrators that can provide flexible data mapping and models to transform data as needed.
- **Logility advantage:**  
Logility's integration templates for ERP-to-integration rely on a two-step transfer process:  
First, detailed ERP data is extracted at the lowest level of detail. Once extracted to a middle layer, the template offers ample opportunity to apply transformation or aggregation logic before the data is passed to the relevant modules. This approach results in a high degree of both mapping and data model flexibility without having to break with the standard integration flow.

**Custom integration designs often become too complex or too fragile to sustain.**





## A Real-World Template-Based Integration Project

A major sporting goods retailer, with over 150 stores throughout the US, needed to optimize its supply chain for its growing business. The company chose Logility to accelerate demand planning, inventory planning, replenishment planning and life cycle planning in conjunction with the organizations existing merchandise management system from JDA.

The integration between the company's JDA platform and Logility's best-of-breed supply chain software solution had to support a daily planning cycle for well over 15 million item/store combinations. Logility's net change approach to integration was a key factor in handling such a large universe of item/locations; and the solution in fact can handle much more anticipated growth.

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The project was conducted using Logility's template-based approach, which streamlines the development and deployment process using pre-built integration components for the Logility modules.

**Phase One** included template review and development of business requirements with the Retail customer, as well as design discussions for data structures.

**Phase Two** tested the basic data extraction-transfer-load [ETL] between the two systems, and incorporated the retail company's custom business requirements into the integration project.

**Phase Three** encompassed final agreement on business requirements, and the full loading and testing of the production integration, which met all needs for daily inventory and transaction updates for over 15 million item/locations.

The Logility template-based approach allows high-performance integrations to be completed in 30 to 60 days, at a much lower price point than custom integrations developed entirely from scratch.



## Custom Integrations without the Custom Effort

AdapLink™, Logility's templated integration solution, delivers custom ERP integrations without the custom effort for best-of-breed supply chain planning and optimization solutions.

AdapLink's rules-based application combines standardized connectors with high-performance rules-based data transformations and powerful solution management capabilities.

Logility's modular integration technology saves time, cost and complexity for customers. Pre-built integration templates deliver better performance, simplified support and reduced cost of ownership, cutting implementation effort by as much as 90% for typical integration projects, and delivering results in 30 to 60 days in most cases.



## About Logility

Accelerating the sustainable digital supply chain, Logility helps companies seize new opportunities, sense and respond to changing market dynamics and more profitably manage their complex global businesses. The Logility® Digital Supply Chain Platform leverages an innovative blend of artificial intelligence [AI] and advanced analytics to automate planning, accelerate cycle times, increase precision, improve operating performance, break down business silos and deliver greater visibility. Logility is a wholly owned subsidiary of American Software, Inc. [NASDAQ: AMSWA].

To learn how Logility can help you make smarter decisions faster, visit [www.logility.com](http://www.logility.com).

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