LANSA Case Study

Altova partner OEMs MapForce® to offer non-technical customers access to its powerful application development and integration technology.

Overview

LANSA is a software company offering a development environment for application generation and integration on multiple computer systems. Traditionally, the over 7,000 companies actively using the LANSA platform have been staffed with highly technical programmers and software developers. The company had previously addressed the integration needs of these users with its product, LANSA Integrator, a developer toolkit that enables integration of application-to-application (A2A) and business-to-business (B2B) transactions through XML and Java services for LANSA, Java, C, RPG, and COBOL applications.

Recognizing an increasing need for non-technical users to perform business process automation tasks, LANSA has built a solution that offers sophisticated data integration capabilities through a comprehensive, easy-to-use visual interface - that doesn't require the user to write any code. LANSA Composer, which shipped in October 2007, allows non-technical users to design and execute business process integration solutions quickly and easily.

LANSA Composer is built around the comprehensive visual interface and powerful behind-the-scenes code generation capabilities of MapForce, Altova's award-winning graphical data mapping, conversion, and integration tool.

The Challenge

LANSA needed to incorporate a visual mapping product into LANSA Composer that had the ability to generate code behind-the-scenes to be processed by the powerful execution engine employed by LANSA Integrator. This component would enable LANSA Composer to offer the process automation capabilities of LANSA Integrator to non-technical business users within small to mid-sized organizations.

The mapping component was required to be compatible with LANSA's architecture, enabling a much quicker turnaround for their development process. Other important considerations included platform independence (in the form of Java code generation), as well as the ability to handle all of the data formats currently used by their customers and expected to be used by their customers in the future (XML, databases, flat files, EDI, Web services, etc.).

The Solution

After much consideration and a thorough requirements review, the team at LANSA came to the conclusion that the mapping component would be very difficult, time consuming, and expensive to build in-house, and decided to OEM a third party tool.

The company performed an exhaustive review of all of the available data mapping and integration solutions on the market and found that Altova MapForce was the ideal candidate for inclusion in LANSA Composer by meeting the following criteria:

- **Compatibility with platforms supported by LANSA**

  MapForce has the capability of generating open source Java applets for transformations, making it compatible with all the platforms supported by LANSA (additional options for code output include XSLT 1.0/2.0, XQuery, C++, and C#).

- **Extremely broad support**

  MapForce supports mapping data between any combination of XML, database, flat file, EDI, and/or Web service.

- **Simple and compelling user interface**

  With its simple drag-and-drop design, the graphical MapForce UI offers unparalleled ease-of-use to business users and developers alike.

- **Premier brand name**

  Altova products are the choice of over 3 million clients worldwide, including 91% of Fortune 500 companies.

With all of these attributes and more, MapForce was chosen as the graphical mapping interface and transformation component for LANSA Composer.

LANSA Composer

LANSA Composer is built on top of LANSA Integrator, the company's integration toolkit for developers that offers bi-directional data integration through XML, SOAP (an XML-based messaging protocol), and Java services, allowing information exchange and workflow automation across the enterprise.

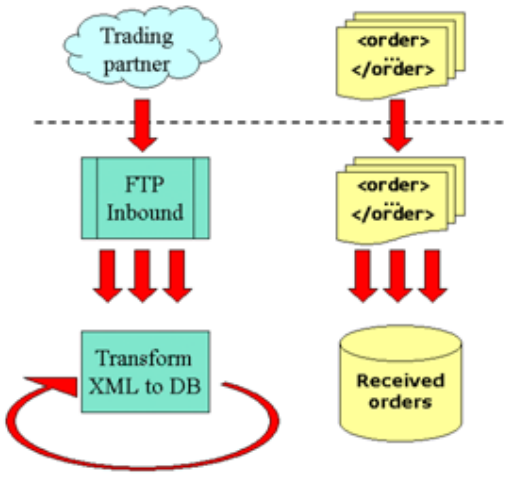
LANSA Composer builds upon the power of LANSA Integrator, offering code-free, user-friendly features to business users, without requiring any programming experience. LANSA Composer was designed specifically for the small and medium-sized businesses that dominate the IBM® System i and Microsoft® communities.

LANSA Composer delivers automation solutions to previously manual processes in a simple, drag-and-drop environment, enabling the seamless exchange of business information across and within small to mid-sized organizations. The application provides the following core services:

- **Transport** – moving data between source and target
- **Transformation** - mapping data between formats
- **Process Orchestration** – dynamic event coordination and execution
- **Administration** – auditing, error-handling, logging, security, and system operations

LANSA Composer's transport component allows users to exchange business information and transactions in common and agreed-upon formats with trading partners, internal business units, and/or other business applications on the same or different computing platforms using industry-standard transport protocols including FTP, HTTP, email, and message brokering systems such as IBM MQSeries.

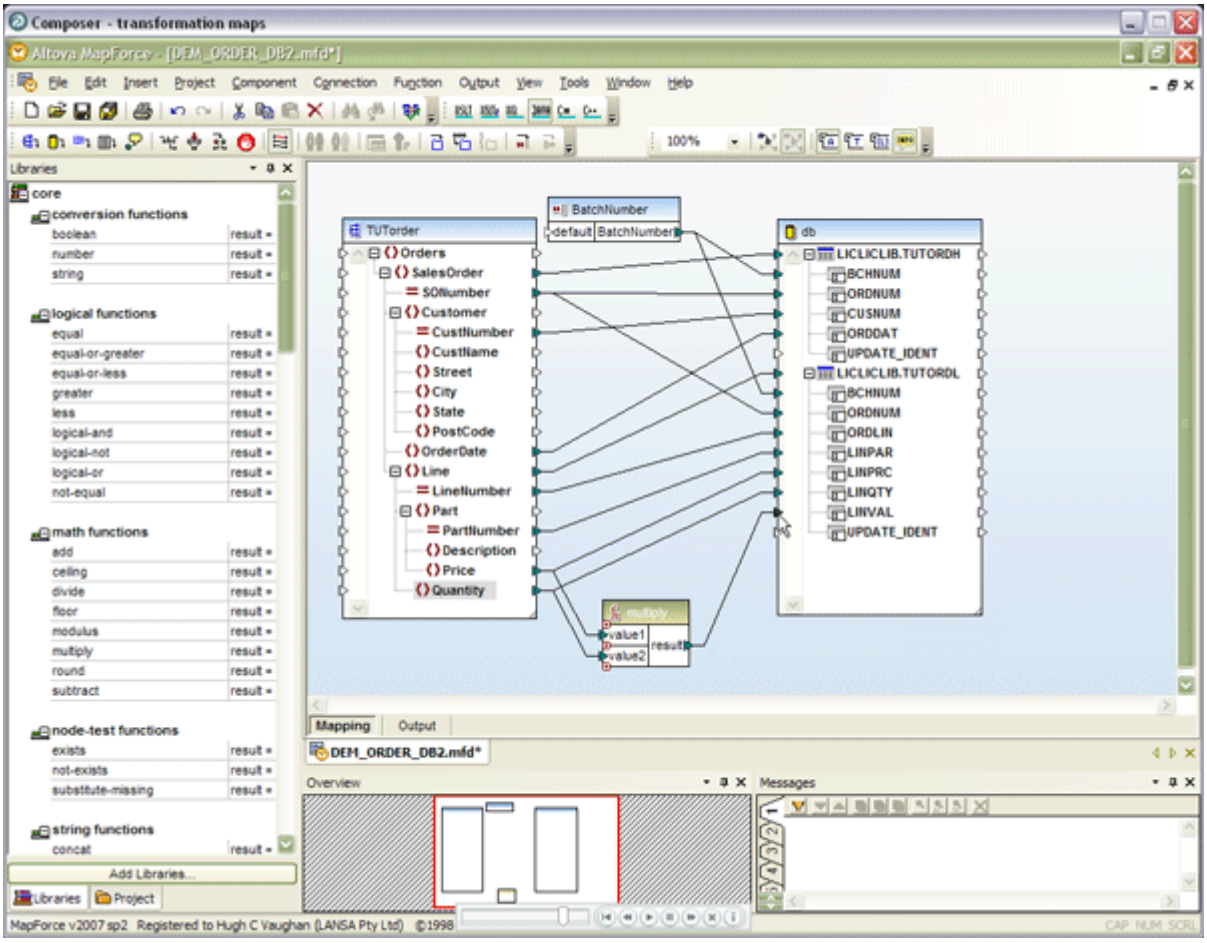
In the illustration below, XML-formatted sales orders are received from a trading partner via FTP. The next step is to transform the received XML sales orders into tables within the Received Orders database. In this example, an XML Schema definition (XSD) will be used to represent the order data, while a database table structure (database schema) will be used to represent the target database.



An example of source and target components for use within LANSA Composer

At its core, LANSA Composer utilizes the OEMed MapForce application as its transformation component. The screenshot below demonstrates how a LANSA Composer user used MapForce's intuitive drag-and-drop graphical interface to migrate the XML-formatted order data to the target database table.

Additional operator functions can easily be inserted via the function libraries pane, allowing additional data transformation operations to be made on-the-fly.

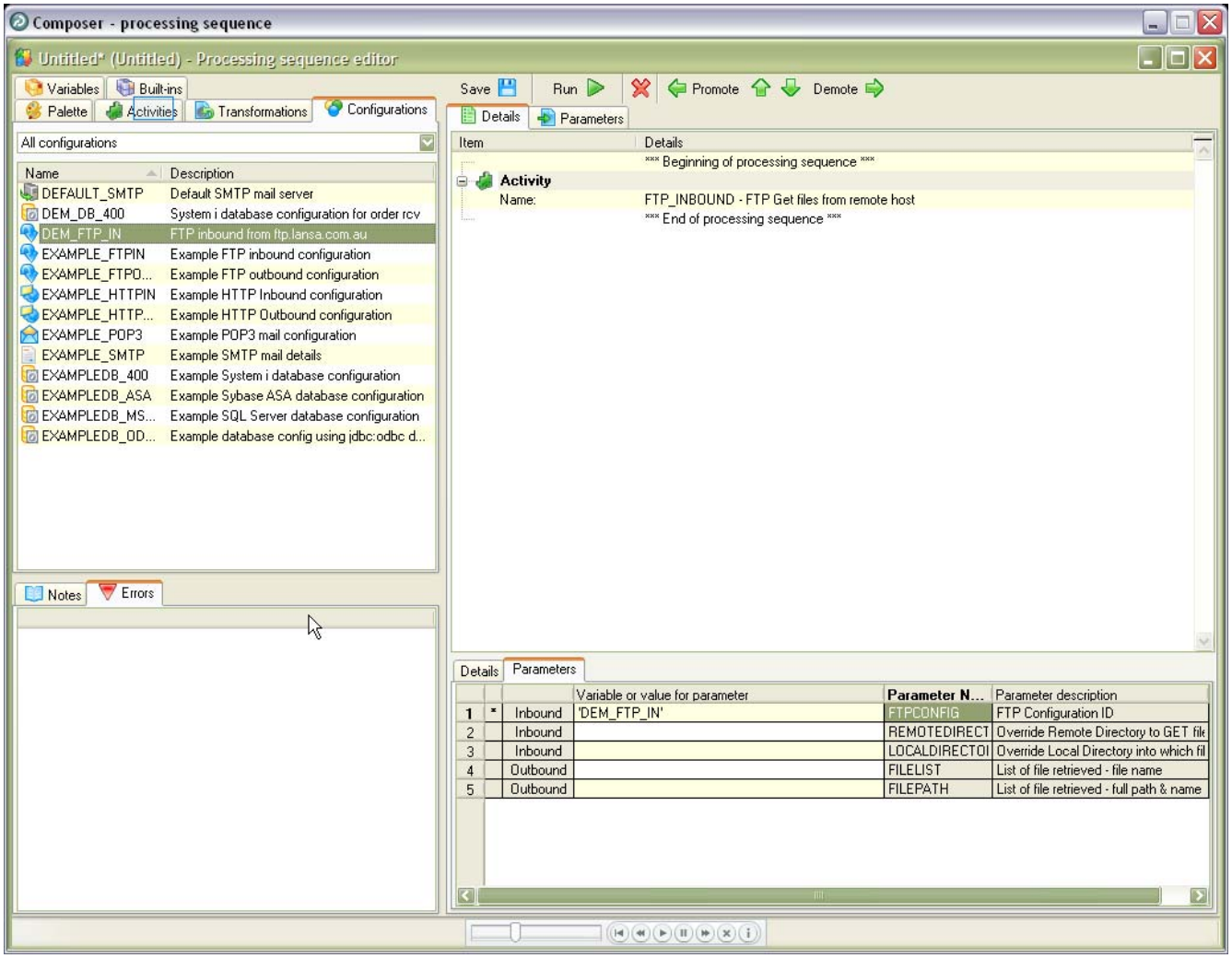


MapForce data transformation within LANSA Composer

MapForce generates a platform-independent Java applet behind the scenes based on the user input from the mapping (MapForce can also generate code in C# and C++). This code, though invisible to the LANSA Composer user by design, will enable the business processing engine to execute the transformation component of the business process integration sequence.

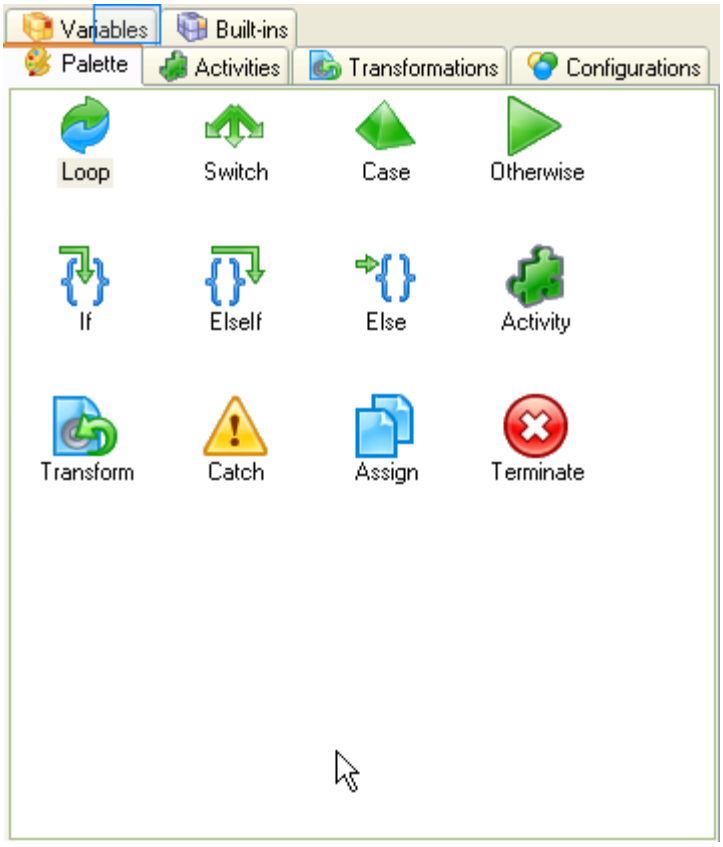
LANSA Composer's process orchestration component enables business processes to be created and executed dynamically, building upon the transformation map(s) created using MapForce, as well as transport operations and other activities by adding processing directives and variable input values. Once again, a user-friendly drag-and-drop interface enables business users to perform complex operations without writing a single line of code.

Expanding on the example in the previous paragraphs, the processing sequence editor can be used to set up activities including the incoming FTP configuration and applying a batch number to the incoming order data.



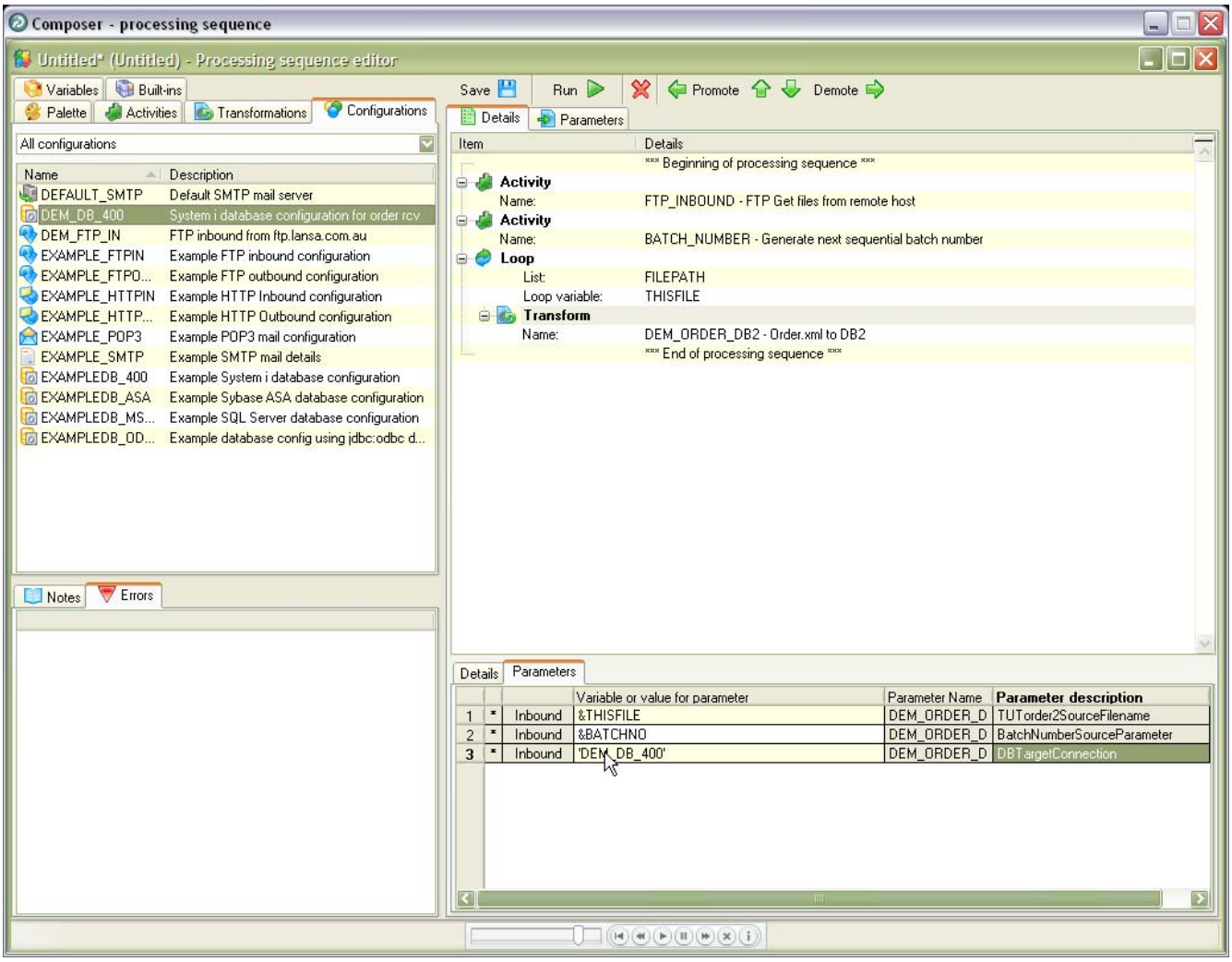
FTP configuration processing sequence

A variety of processing directives can be applied both to activities and to transformation maps, giving the user full control to orchestrate workflow and business process operations:



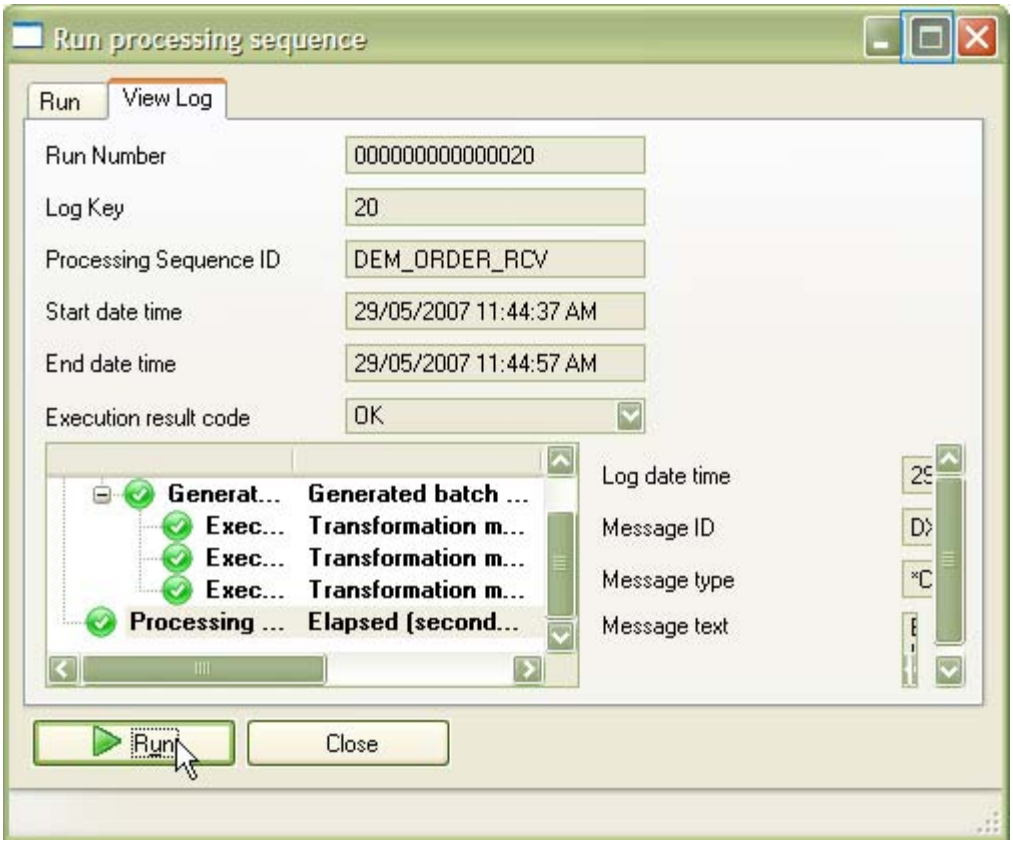
Palette showing available processing directives

In the example below, a loop directive has been employed, which will run the MapForce transformation map for each order received from the trading partner. In other words, every time an order.xml file is received from the trading partner via FTP, that data will be automatically written to the target database table.



Setting up a basic processing sequence

Processing sequences can be run inside LANSA Composer for development and testing purposes, or in the user's own production environment with a plugin to the job scheduler of choice.



Log showing the results of a processing sequence run within LANSA Composer

LANSA Composer incorporates an administration component that provides features such as reporting, error-handling, user management, security, and system operations and includes a Web-based Operations Console that enables operators to verify the status of running and completed processing sequences without needing to have any LANSA software installed on their PC.

The Results

Business process integration (BPI) enables manufacturers and other businesses to design processes that synchronize internal operations with those of global trading partners by integrating back-end systems with desktop productivity and third-party applications.

On October 15, 2007, LANSA released version 1.0 of LANSA Composer, a BPI solution designed specifically for non-technical business users. Capitalizing on an attractive price tag, productivity increases, and the power of the LANSA brand name in the IBM System i community, LANSA Composer is expected to be a top seller for the company in the years to come. [NOTE: The vendor made multiple sales of this new product within 30 days of launch.] The usability features that have been built into LANSA Composer enable business users to access the vast automation capabilities of the popular LANSA Integrator product, thus liberating developers from performing more mundane tasks.

Martin Fincham, LANSA's general manager for the EMEA region said, "We chose to OEM Altova's MapForce because it is simply the best tool of its kind on the market, and it's perfectly suited our broader application development requirements. This decision was immediately vindicated when an early adopter said plugging into MapForce was a stroke of genius!"

Find out how MapForce can help with your data integration challenge. Download a free 30-day trial of MapForce® today!