ALTOVA®

MACPA Converts Financial Data to XBRL In-House

Altova's FlowForce Server Automates Data Collection and Processing

In June 2011, the Maryland Association of Certified Public Accountants (MACPA) collaborated with Altova® on a case study showing how small, private organizations could transform their financial data into XBRL. Using tools from the Altova MissionKit®, MACPA was able to convert General Ledger and other data from disparate systems into XBRL, in-house and on a tight budget. Their goal was to take advantage of XBRL's potential to drive operational efficiencies, reduce data collection and aggregation costs, and increase accessibility to financial information. This was an ambitious goal for such a small organization, especially given that the US Securities and Exchange Commission (SEC) currently requires only large public companies to submit their information in XBRL.

As discussed in the first case study, MACPA created XBRL instance documents by using Altova MapForce® to convert financial data from Microsoft® Dynamics and AM.net (an association management application) to the XBRL Global Ledger. MapForce automatically generates royalty-free code, so they were able to compile the generated Java code and create batch files to generate XBRL instance file as needed. Finally, the XBRL file was mapped to multiple external targets, including an Excel spreadsheet used to feed MACPA's Key Performance Indicators (KPI) system.

This process significantly reduced the time and costs associated with data collection and compilation. Prior to that point, financial data for the KPI system was gathered from multiple sources and took hours upon hours to collect manually. The same was true for other financial reports as well. Now new input files mapped from XBRL instance files could be generated each time new reports were needed.

In the year that has elapsed since the case study was first published, Altova introduced FlowForce® Server (now in Beta 2), a trigger-based tool that automates the execution of MapForce data transformations and other tasks on servers, virtual machines, and workstations. MACPA used FlowForce Server's automation capabilities to power the back end of a business intelligence dashboard they designed to provide individuals across the organization access to comprehensive and up-to-date financial data. MACPA employees use PowerPivot, an Excel add-in with powerful data processing capabilities, from within the dashboard to generate custom reports that combine data from both accounting systems.

Here's how they did it …

XBRL as Disruptive Technology

XBRL's potential for reducing costs, driving efficiencies, and increasing transparency is rooted in its ability to standardize complex financial concepts. Organizations reporting financial data in XBRL use the same tag to refer to identical concepts that otherwise may appear differently in their respective internal accounting systems.

This is obviously beneficial to auditors, analysts, and others seeking to compare or benchmark different organizations. However, XBRL also offers these organizations the opportunity to create a single financial data source that can be used for both internal and external reporting purposes.

This opportunity was recognized by MACPA, who committed themselves to proving that XBRL could deliver outsize benefits to smaller organizations. It was their belief that creating a single data source based on a non-proprietary standard would help them collect data more efficiently, deliver greater insight into their financial performance, and pave the way for greater collaboration and benchmarking among similar organizations.
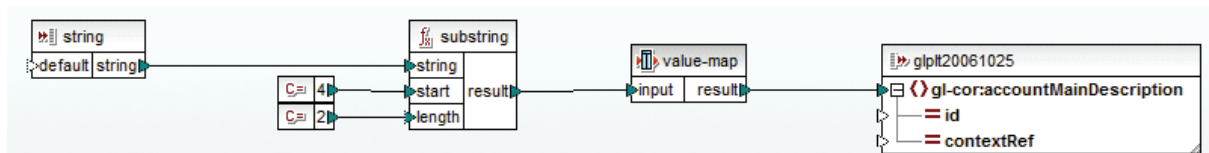
Breaking Down Data Silos

Like many organizations, MACPA employs a number of disparate IT systems, each of which meets the needs of a different segment of the organization. Their accounting data is divided between AM.Net for cash disbursements, events, and job costs, and Microsoft Dynamics for accruals, receivables, and budgeting. Data from both AM.Net and MS Dynamics are populated to siloed SQL Server databases. Combining information from both systems was a manual, labor-intensive process that diverted time from value-add activities like data mining and analysis.

MACPA used Altova MapForce, a graphical data conversion and integration tool, to combine financial data from various tables in the SQL Server databases to a single source via the XBRL Global Ledger (GL) Taxonomy. XBRL GL is an XML Schema that includes tags for information from the chart of accounts, journal entries, and transactions.

In MapForce, data is mapped from the source to the target by simply dragging connecting lines between fields in the data source (here, different queries from the SQL Server database) to the target (the XBRL Global Ledger Taxonomy). Built-in and user-defined functions are used to transform data (where appropriate) for inclusion in the target file.
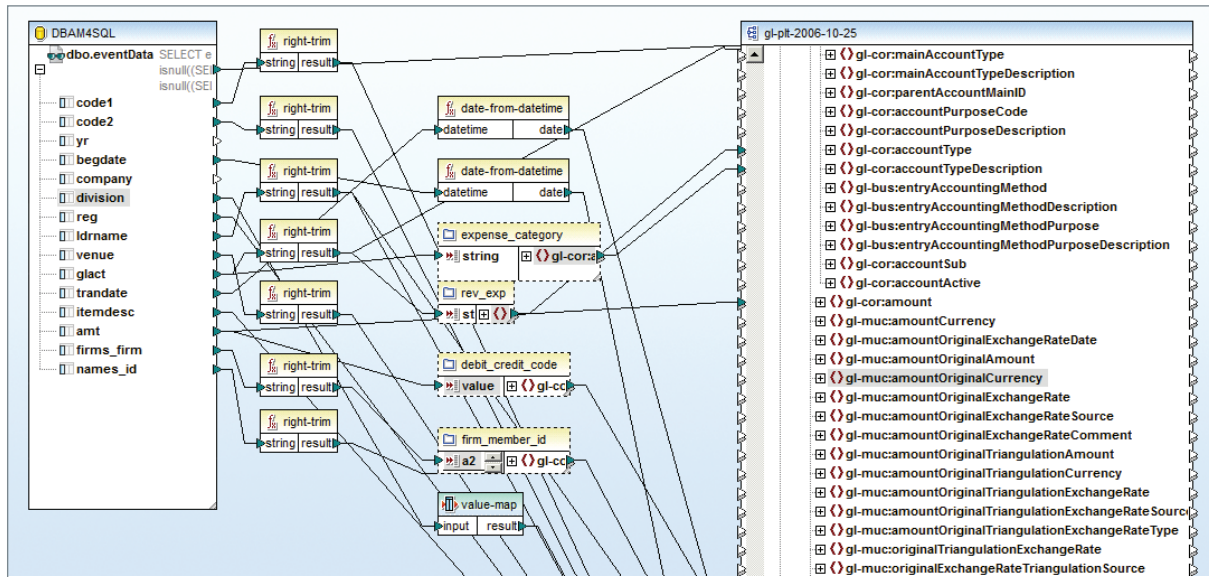
One of the functions MACPA created identifies which account a particular line item should be applied to in audited financial statements. They created a value-map for expense types, and the appropriate value is passed into the Global Ledger instance document.

MapForce transforms data instantly. The output tab shows the results of the transformation, an incredibly useful feature in the development and testing phases, and the output file can be saved directly from the application.

Note that the output file is generated in XML. The XBRL Global Ledger is designed specifically to interface with XBRL for financial reporting and includes tags for information from XBRL taxonomies but presents data in XML format for even greater storage and reporting flexibility.

```
<gl-cor:accountingEntries>
  <gl-cor:documentInfo>
    <gl-cor:entriesType>journal</gl-cor:entriesType>
    <gl-cor:uniqueID>1</gl-cor:uniqueID>
    <gl-cor:creationDate>2012-04-18-04:00</gl-cor:creationDate>
    <gl-bus:creator>MACPA</gl-bus:creator>
    <gl-cor:entriesComment>event detail</gl-cor:entriesComment>
    <gl-bus:sourceApplication>MapForce</gl-bus:sourceApplication>
    <gl-bus:targetApplication>BI Dashboard</gl-bus:targetApplication>
  </gl-cor:documentInfo>
  <gl-cor:entityInformation>
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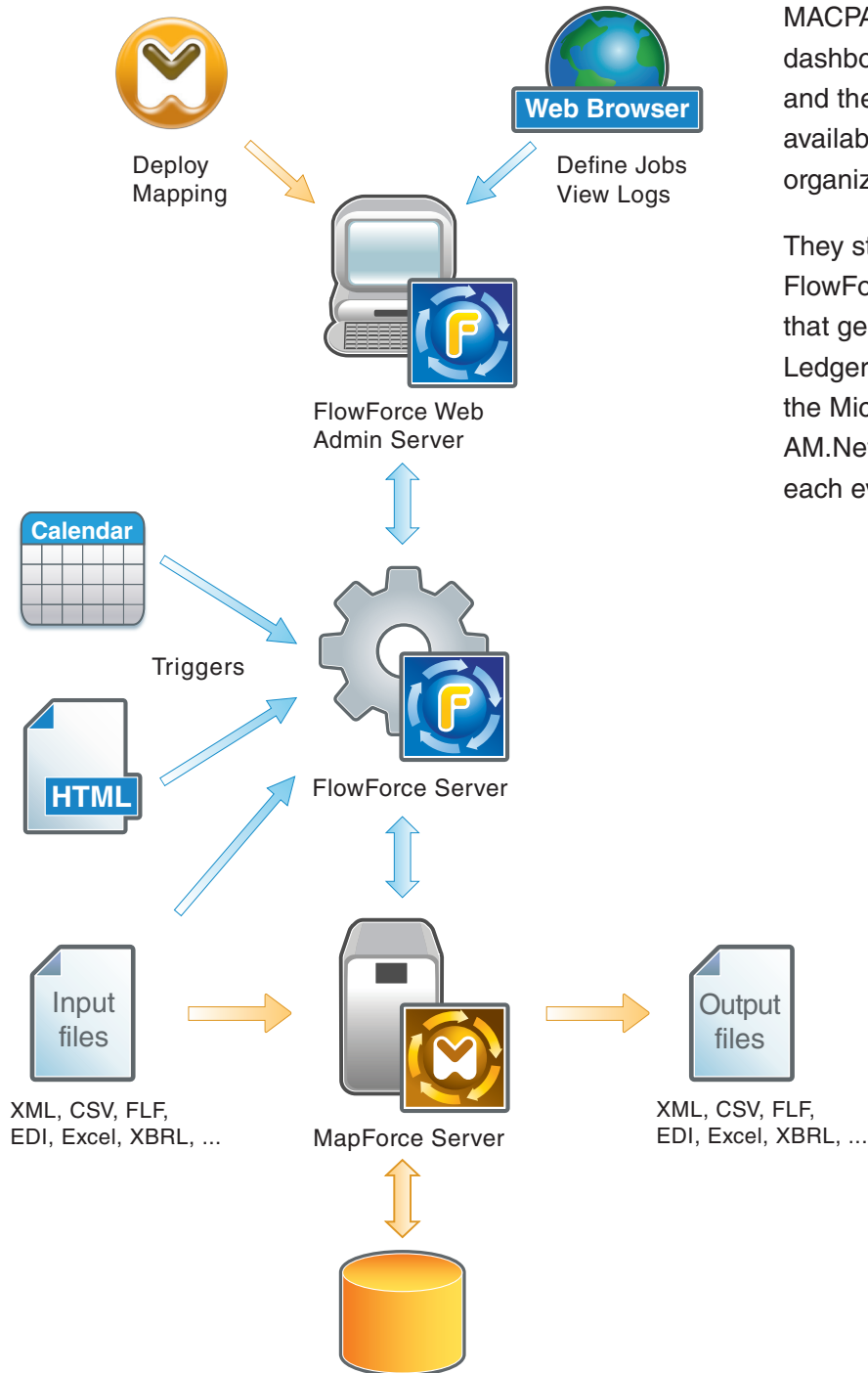
In addition to generating an output file, MapForce will generate royalty-free code in Java, C#, or C++, as well as XSLT 1.0, XSLT 2.0, and XQuery from a menu command.

Initially, MACPA had compiled MapForce-generated Java and created batch files that would transform the data when the batch files were run. However, the introduction of FlowForce Server enabled MACPA to automate transformations they had created in MapForce more easily and on the fly. This set the stage for the development of a dynamic BI dashboard in which end users could design and run custom reports based on the most recent financial data.

Automation with FlowForce Server

Altova FlowForce Server is an intuitive management and automation application for data conversion and integration tasks. FlowForce Server's web interface lets you define multi-step jobs triggered by a flexible schedule or by the presence of new or modified input files.

Deploy Mapping

Web Browser

Define Jobs View Logs

FlowForce Web Admin Server

Calendar

Triggers

HTML

FlowForce Server

Input files

XML, CSV, FLF, EDI, Excel, XBRL, ...

MapForce Server

Output files

XML, CSV, FLF, EDI, Excel, XBRL, ...

MACPA wanted to update the dashboard's source data daily and then make that information available to end users across the organization.

They started by creating a job in FlowForce to run the mappings that generate the XBRL Global Ledger instance document from the Microsoft Dynamics and AM.Net accounting applications each evening at a particular time.
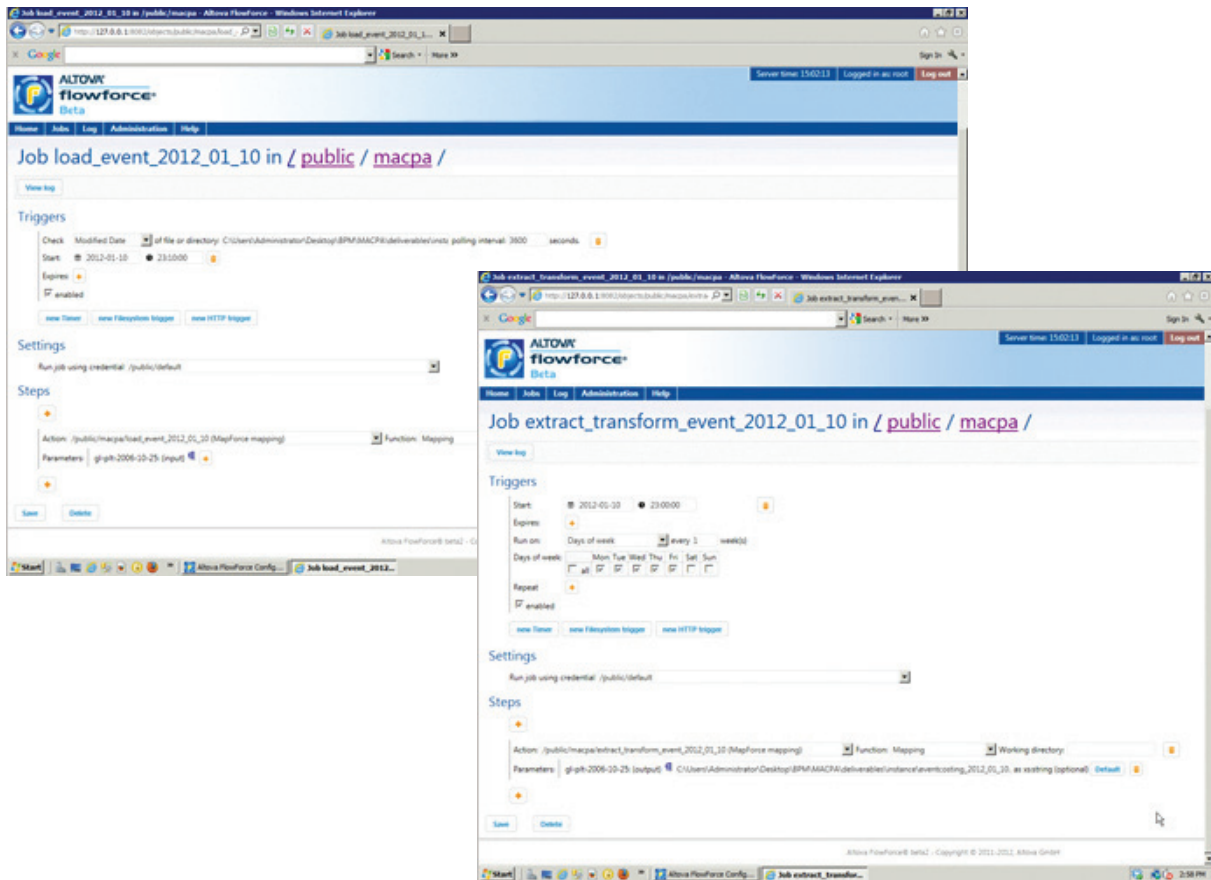
They also created a job to load the XBRL Global Ledger instance document to the SQL Server database each time a new instance document is generated, which in MACPA's case is every 24 hours.

Once it is populated to the SQL Server database according to the job defined in FlowForce, the instance document with updated financial information becomes available for reporting and analysis. Employees use PowerPivot to create custom reports, which they can save to the dashboard and rerun – the report automatically reflects the most recent data because it is querying a data source (the XBRL Global Ledger instance file) that is updated daily.
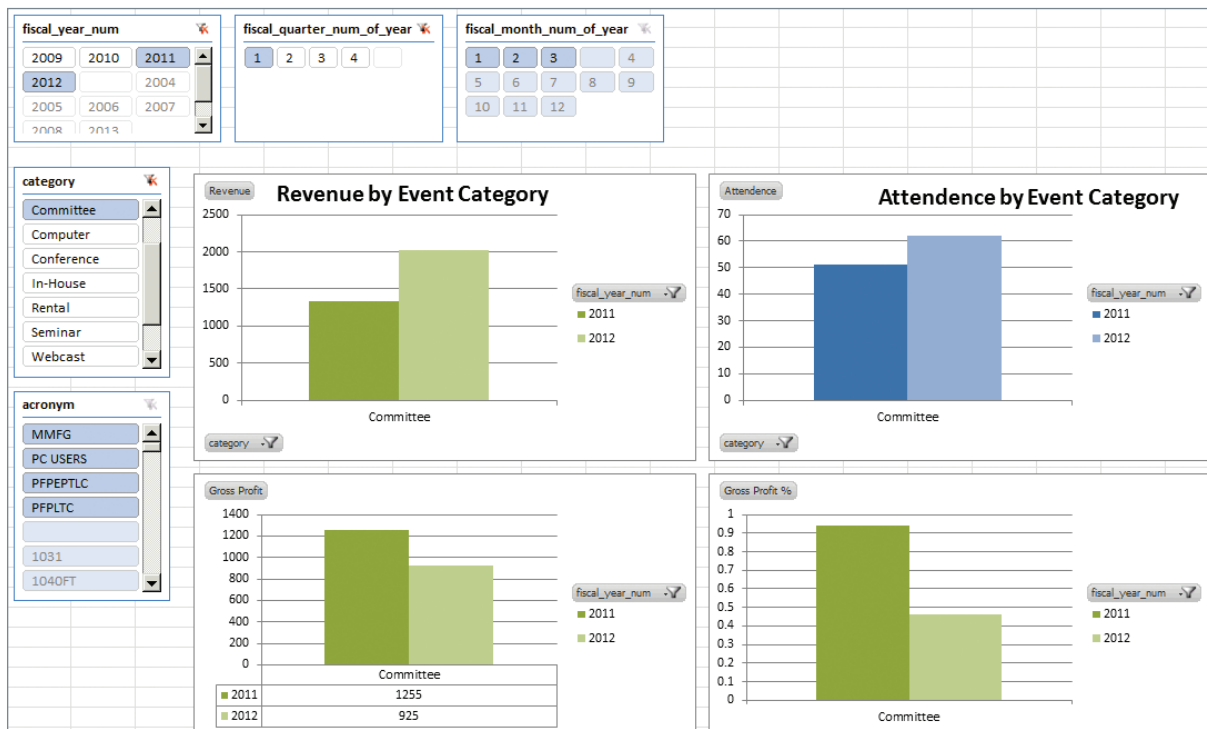
XBRL's Potential … Realized

The payoff for MACPA has been substantial.

They can automatically create a source file that includes all of their financial data in one location, generate reports that automatically reflect the most recent data, and design custom reports that combine information from disparate, previously disassociated sources. And they're doing all of this without wasting days on data collection and compilation tasks – using MapForce and FlowForce they have been able to automate virtually every step of the process.

Of course the BI dashboard that enables custom reporting is just one aspect of MACPA's XBRL-enabled data collection, mining, and reporting system. Automating the population of IRS Form 990 for tax-exempt and non-profit organizations has been identified as a priority. They are also looking at bringing additional data sources into the XBRL Global Ledger instance document including SalesForce (their customer relationship management system) and their new learning management system.

One of the motivating factors behind MACPA's decision to undertake this project was to provide a test case for the benefits of XBRL for small organizations. In this they have most certainly succeeded.

MACPA has proven that with the right tools, any organization can gain access to their financial data faster and more dependably. This not only lowers costs and increases transparency, but enables organizations to devote their energies to data analysis and mining – activities that bring more value in the form of insight in today's data-centric business environment.