

# XBRL AND BUSINESS INTELLIGENCE

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SKIP FALATKO AND THOMAS HOOD OF THE MARYLAND ASSOCIATION OF CPAS (MACPA) DISCUSS THEIR DECISION TO TAG INTERNAL FINANCIALS USING XBRL, AND HOW THEY CREATED A BUSINESS INTELLIGENCE DASHBOARD TO IDENTIFY EFFICIENCIES IN INTERNAL FINANCIAL REPORTING.

## BACKGROUND

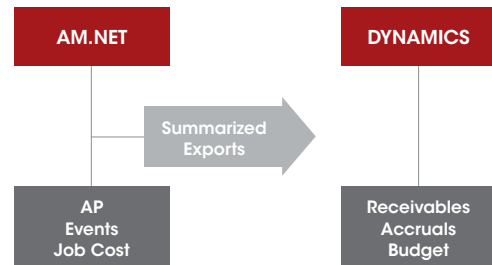
The idea of bringing XBRL to the Maryland Association of CPAs (MACPA) began in early 2011. The MACPA was already familiar with XBRL and well aware that it was a game-changer when it came to financial reporting. However, after discussions with Eric E. Cohen from PwC, the idea of XBRL Global Ledger (GL) being used internally by a small, not-for-profit association as a case study took off.

The MACPA saw this as a perfect opportunity to showcase the power of XBRL and its use for internal reporting, even for small organizations. After a few meetings with Eric Cohen, areas of interest were identified for using XBRL GL. The MACPA saw XBRL GL being most beneficial for linking the two systems together: using XBRL GL to aid internal reporting, and – most importantly – using XBRL GL to feed business intelligence type applications. The benefits were faster access to the data and analytics by the MACPA's team and efficiencies for the finance team in data production and reporting.

## PRIOR TO XBRL GLOBAL LEDGER

The MACPA uses two major systems to run its operations: an association management system (AMS) called AM.net and Microsoft Dynamics as its general ledger accounting system. While both AM.Net and Dynamics have built-in report features that are of great use, the finance staff, in particular, found some of the reporting capabilities to be limited. One of the main issues was a lack of detail provided in AM.Net reports, due to the way data was imported into Dynamics in a summarized form.

Another issue is that whilst the reporting in AM.Net is very useful, finance staff found themselves compiling reports manually from various exports out of the database.



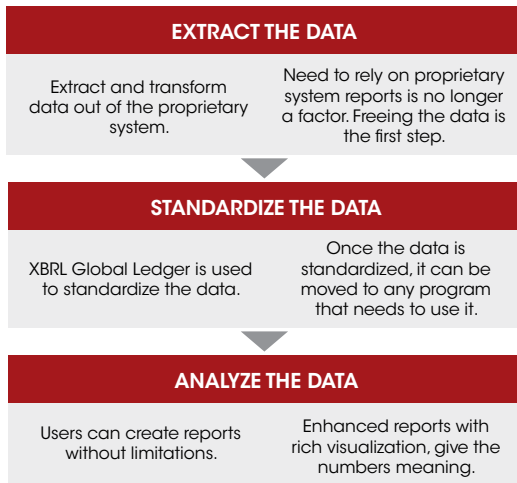
## OBJECTIVES AND GOALS

The MACPA wanted to create a Business Intelligence (BI) Dashboard to complement and expand current financial reporting and analysis solutions by linking together disparate systems, connecting the data, and allowing users to see the whole picture. This is partly accomplished by freeing the data from reporting limitations and the data's proprietary system and using workflow software to automate the analysis and production of reports customizable by the users.

The goal of the BI Dashboard is to provide financial reporting and key performance indicators (KPI) so that managers and employees can act quickly and efficiently, with as little manual effort as possible. This is made possible due to the in-depth detail provided by XBRL GL, which is easily manipulated, aggregated and dispersed throughout the organization in an automated, error-free fashion. An example of this is the move from paper-based financial statements to new online financials with drill-down capabilities.

## EXTRACT THE DATA

Freeing the data from the current reporting systems quickly and unexpectedly became the theme. By doing this, we free any limitations that were previously present and disbar the manual processes that previously existed due to the stringent way in which data was exported from the two



systems. As a desired goal and result of freeing the data, it is anticipated that the finance team will have more time to perform higher-level analytics and to think of new metrics.

The underlying process driving the liberation of data can most aptly be defined as an Extract, Transform and Load (ETL) process, where data is extracted from two separate systems, transformed into an XBRL GL instance document and loaded into the tool of choice for analysis. Altova MapForce is the driving application for the ETL process, allowing different queries of data to be run against the SQL server and different functions to manipulate data into groups and identify metrics. Altova MapForce is therefore pulling the data out of the relational database structure and putting it into a machine-readable document that has context and hierarchical relationships instead of relational ones.

### STANDARDIZE THE DATA

Having access to data unfettered from the proprietary system from which it came is an important step in the process, but alone it would not accomplish much and would leave the user with similar exports that are already available. XBRL GL serves as the medium that conducts the ETL process: organizing and standardizing the data from the two separate systems into a contextual machine-readable document. GL is the key to this application – it allows us to move our newly freed data to any system in a standardized way. Since XBRL GL is open source, it is system independent and readily processed in a number of ways. It is important to note that an XBRL GL instance file can be imported directly to Excel; however, for this particular case, all XBRL GL instance documents are processed by an SQL server.

Ultimately, an SQL database was chosen to process the data, allowing for quick distribution of updated data throughout the organization. Having the data stored in the XBRL GL instance document provides the ability to shift

between applications easily and painlessly. For example, if the management were to share the instance document at an offsite location with the Board of Directors where the SQL server is inaccessible, the instance document could be pulled directly into Excel via Import XML. Once the data is standardized with GL, imagination and the tools available are the only limits as to how the data can be used.



XBRL GL also increases the ability to reuse our mappings, especially with other state CPA associations, allowing benchmarking and easy comparison of numbers across associations.

### ANALYZE THE DATA – MICROSOFT EXCEL AND POWERPIVOT

While freeing the data is the theme of the application, not being able to make use of it would undermine the desired result. The need to analyze the data and use it in day-to-day operations requires a software package that anyone in the organization can use. Microsoft Excel, with the free add-on PowerPivot, is easy to learn and is already used by the team at MACPA. It therefore became the product of choice.

An SQL data connection to an SQL server that holds the XBRL data is used to provide live access to data as it is passed from the ETL process, allowing access to the most up-to-date data from any computer on the network. PowerPivot charts and tables are used to create dashboards and reports that are dynamic, allowing users to actively filter and 'mold' the data into the form required.



So, PowerPivot provides us with the reports as we wish to see them. More importantly, it allows us to slice the data in any way, encouraging the creation of new reports or different views of data – a practice that did not previously exist in the MACPA due to barriers of data.

### PUTTING THE PIECES TOGETHER – ALTOVA FLOWFORCE

Having the ETL process automated is essential to any sort of business intelligence or business performance management

system. Automation reduces errors, speeds up reporting cycles and encourages users to actively view information when they know it is consistently updated. Automation was achieved in this situation by using Altova's FlowForce and MapForce Server.

FlowForce allows quick deployment of mappings to a server, which can then be set up to be triggered by timers, including file modified dates, among other options. All mappings are deployed to the FlowForce Server via MapForce. The mappings that handle data extraction and standardization to an XBRL GL Instance Document are set to run nightly, while the mappings that load the instance documents to PowerPivot are executed when the new instance document is generated. The following morning, anyone who looks at a report in PowerPivot is able to view the most current information in the system.



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### THE BIG PICTURE

In *Data Dynamite: How Liberating Information Will Transform Our World*, David Stephenson writes:

“The data provides the real-time information. The collaborative tools provide the means to fully explore and integrate the information. Together, they create the opportunity to blast past practices to smithereens, improving data analysis and decision-making throughout society. When we do that we can do things more quickly, integrate more perspectives, and adapt more readily than ever before. There has simply never been this kind of power and insight before.”

In our case, the MACPA's data has been freed from its proprietary system(s) and made available to all users. The collaborative tools are the PowerPivot templates drawing on the XBRL data and the drill-down financials. In addition, a major internal KPI effort is under way to involve the entire MACPA team in understanding the business drivers and links from their jobs to the business results. The MACPA wants insights and perspectives from its entire team to help navigate the rapidly changing business landscape.

As a result, the finance department does not need to spend extra time manually compiling and fact-checking reports. The finance department and all staff have access to live data from the two systems, free from proprietary reporting limitations, with the tools to analyze the data in any way they see fit. The ability to create reports and analyze them with the XBRL GL data is powerful in its own right, but even more powerful when coupled with the reports that already exist in Dynamics or AM.Net. The MACPA staff now has access to a dynamic, real-time reporting capability that can be used in lieu of (or in conjunction with) the legacy systems as supplemental information, solely at the users' discretion. The result of our application of XBRL has been significant time-saving in the finance department, increased accessibility of the data and analytical tools, and faster decision-making capability by our management team and users.

### FUTURE PLANS

Future plans for the MACPA's work with XBRL include (but are not limited to) expanding and refining the use of XBRL GL internally, Form 990 automation through use of XBRL GL, the creation of a not-for-profit XBRL taxonomy, and even the ambitious goal of bringing Standard Business Reporting (SBR) to the state of Maryland.

Continued use and expansion of XBRL GL to capture product information, sales and backlog information from the MACPA Customer Relationship Management (CRM) system, Salesforce (another system in use), and information from the new Learning Management System (LMS), are high on the list. Refining the choice of elements used in the current mapping will continue, ensuring that the best choice is made to represent the data. The use of XBRL formulas is on the chalkboard. Standardizing the data is important; however, standardizing the processes that create the standardized data is equally important and an integral piece of the XBRL GL philosophy.

The MACPA recently began working under guidance from Louis Matherne for the Financial Accounting Standards Board, to create a not-for-profit taxonomy. In line with this, the MACPA is planning to release its financial statements in XBRL on its website in the near future. **IBR**



## The Center for Transparency, Performance Management, & Accountability Using XBRL

For more information on how you can join the conversation  
join us at [HTTP://MACPA.ORG/TPMAX](http://MACPA.ORG/TPMAX)

