

EMC PERSPECTIVE

Improving Information Integrity for Financial Analyses

How Office Business Application (OBA) solutions protect the quality of data and reduce the risk and errors inherent in ad hoc spreadsheet applications

Abstract

Data entry errors, formula corruption, and intentional manipulation of financial information can lead to seriously flawed financial analyses, which, in turn, can lead to significant business losses and material misstatements. Organizations working with EMC® Consulting are developing and implementing web-based Office Business Application (OBA) solutions that improve and protect the integrity of the information used in spreadsheet applications. This paper examines how OBA solutions improve both data quality and analyst productivity by eliminating manual processes for acquiring data and business logic and centralizing access and version control, yet still allowing analysts to use the familiar Microsoft® Excel® application they already know.

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Improving data quality/ information integrity retains its position as the most pervasive critical technology concern in the 10th annual Technology Issues for Financial Executives survey.

<http://www.govtech.com/gt/313963>
May 6, 2008

The need for integrity

Virtually all financial analyses and statements depend on data entered into ad hoc spreadsheet applications.

Simple errors introduced into data or logic can easily lead to seriously flawed analyses and material misstatements.

Common sources of error are:

- Data entry errors
- Formula and logic errors
- Inaccurate or “stale” data
- Data collection problems
- Version control issues

Studies show that an unacceptably high percentage of spreadsheet applications contain errors.

Improving Information Integrity for Financial Analyses

Good business decisions depend on good financial analyses—and good financial analyses depend on quality data.

According to Gartner, Inc., information integrity has ranked as a top concern in each of its past three Financial Executives International (FEI) technology surveys. In the latest survey, the need for better data quality to improve the accuracy and consistency of financial reporting was identified as the most critical technology issue. Seventy-five percent of respondents also cited data quality issues as a barrier to achieving business objectives.¹

Simple data entry and copy errors, formula corruption, and intentional manipulation of data can all easily and significantly skew the financial analyses that provide decision-makers with insight into business performance, risk assessment, investment return, and much more. In addition to poor decisions that can result in significant losses, inaccurate data can lead to material misstatements with legal consequences in the information reported to stakeholders, auditors, and the public.

A survey of more than 250 financial executives, conducted by TechWeb in October, 2009, shows that while almost two-thirds of respondents recognized the need to improve data quality, only 20 percent had initiatives underway to do so.²

One reason for this lack of action may well be the perceived complexity and scope of the effort required to take on financial data-quality issues. Organizations should be aware that minimizing one of the most egregious threats to the integrity of their financial information can be accomplished relatively quickly and simply through Office Business Application (OBA) solutions from EMC Consulting.

The Inherent Risks in Ad Hoc Spreadsheet Applications

Spreadsheets are a powerful and irreplaceable tool of choice for financial analysts. But as ad hoc, uncontrolled end-user applications that source and manipulate sensitive enterprise data to report financial results and generate analyses that inform million- and even billion-dollar decisions—spreadsheets are also a source of great risk.

As Gartner, Inc. notes, “The thousands of uncontrolled spreadsheets used by enterprises every day constitute a significant risk. Poorly managed spreadsheets may—through negligence, incompetence, or deliberate criminal conduct—result in business losses, exposure to legal liability, damage to reputation, and unwelcome regulatory attention.”³

Typically, the data in spreadsheets is manually entered or copied from line of business (LOB) applications, data warehouses, external data sources, and other spreadsheets. Spreadsheets frequently contain individualized macros and routines and are often linked together to facilitate collaboration. Usually, there is no capability or requirement for backup, to maintain version control, or to adequately secure either spreadsheets or the data in them.

As a result, it is extremely difficult for most organizations to be sure that the information or formulas on a single spreadsheet are current, accurate, and secure. With many businesses depending on thousands of spreadsheets, and many of these feeding data into one another, it's easy to see why the issue of spreadsheet data quality is worrisome and why the prospect of addressing it is daunting.

¹ FEI Study Shows Financial Executive View of IT and Opportunities to Improve Collaboration, Gartner Industry Research Publication, 21 July 2009, ID Number: G00168766, John E. Van Decker

² State of Information Integrity, TechWeb, November, 2009

³ Spreadsheet Controls Need a Boost, Gartner Industry Research Publication, 20 May 2009 ID Number: G00166352, Jay Heiser, David Furlonger

The Role of IT

IT organizations typically do not directly support spreadsheet applications, although they usually do exert control over the enterprise databases and line of business (LOB) systems from which end-users pull their data.

These user-developed applications exist “below the radar” of IT organizations and are notoriously difficult to control. With limited budgets and staff already overwhelmed by pressing cost and control initiatives, most IT managers are not eager to add the challenge of managing user-developed applications and leave responsibility for ensuring the accuracy of financial information and analyses to financial managers.

Realtime access to accurate, up-to-date, and secure data

EMC application consultants work with financial organizations to transform ad hoc Microsoft Excel user-developed applications into web-based Office Business Application (OBA) business logic that transparently populates end-user spreadsheets with data from LOB applications and other internal and external sources, for more accurate:

- Capacity planning
- Portfolio analysis
- Financial statements
- Risk assessments
- Business performance

Improving Information Integrity with Office Business Application Solutions

The most widely used tool for creating ad hoc spreadsheet applications is Microsoft Excel. Rather than attempting to suppress or exert external controls on these user-developed applications, EMC Consulting helps financial organizations convert them into centralized, web-based OBAs that improve and protect the integrity of their spreadsheet data and calculations—without changing the individual user’s spreadsheet experience—and without adding complexity to IT environments.

These OBA solutions improve and protect information integrity by eliminating manual processes for entering data and calculation definitions into spreadsheets, by tracking and controlling access to data and business logic, and by maintaining version control.

How an OBA Works

EMC consultants, with extensive expertise in Microsoft solutions and technologies, web services, and information management, work with financial analysts to develop OBAs that eliminate error-prone manual processes for acquiring data and obtaining calculation definitions in Microsoft Excel spreadsheet applications. Unlike spreadsheet control software products that manage functions “from the outside,” OBA solutions use secure web services to connect the Microsoft Excel clients to data warehouses or LOB applications that already exist in an organization for realtime query of centrally controlled information. OBA solutions maintain version control and manage and track user access to data and business logic in a way that is transparent to users. There are no additional software products to manage and no changes required in user discipline or work.

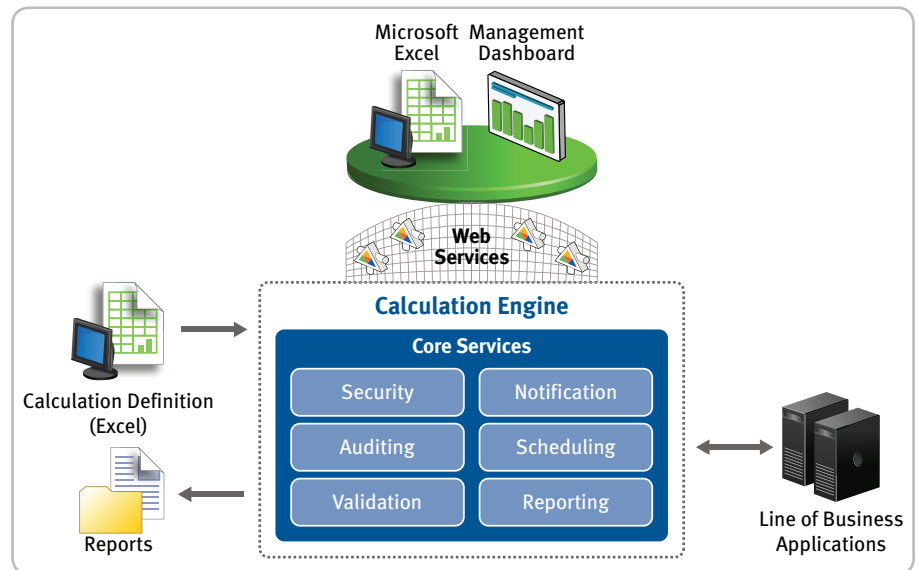
An OBA enables the seamless exchange of information over the network, so that rather than manually inputting data into a spreadsheet and creating multiple standalone copies of enterprise data, users call information directly from the database into their familiar Microsoft Excel-based application. A web service retrieves the data and pulls it into the user’s worksheet. Centralized version control eliminates the issue of multiple versions of workbooks being maintained simultaneously across a company.

An OBA also authenticates users and their level of access. Users can be restricted to specific workbooks or servers based on individual profiles or roles, and allowed only to perform certain functions or access certain data. The web service appropriately filters information automatically before returning it to the user.

Business logic is similarly accessed and centrally controlled, minimizing the risk of incorrect formulas or inadvertent changes made by users when, for example, a spreadsheet is e-mailed to colleagues.

In addition to Web Service connectivity for retrieving data from enterprise LOB systems, an OBA with web service connectivity can be used as a “calculation engine” that enables Microsoft Excel workbooks to push the results of their calculations back into LOB systems. Authorized users can apply changes to the data or logic in the central database, so that it is immediately available across the enterprise. All spreadsheet charts, graphs, tables, and other report tools that reference the changed data are also automatically updated to reflect the current, correct information. This unique feature enables the results of financial analyses to be easily used in business intelligence, in executive reports, and displayed in management dashboards. This automation is also enabled through Microsoft’s Excel Services which enables Microsoft Excel to be automated in a server environment to perform multiple parallel workbook computations.

How Does an OBA Work?



OBA solutions from EMC Consulting eliminate manual processes for acquiring data and calculation definitions. Web services connect the user's spreadsheet directly to data and centralized business logic. The OBA authenticates users, controls access and versions, and applies information management services such as backup, auditing, and reporting.

Benefits for Analysts and Administrators

The streamlined processes and direct, realtime data query facilitated by an OBA eliminate data transfer and copy errors, thereby improving user productivity, while also ensuring that the data that analysts work with is current and accurate. Analysts continue to work in the familiar Microsoft Excel spreadsheet environment they already know, so neither additional training nor cumbersome changes to work processes are required.

Adding new business logic and integrating new LOB systems or databases is easy, enabling a quick response to changing business needs, reorganization, and mergers and acquisitions. OBA solutions can support any number of clients.

Administration of OBA solutions is also simple. Administrators use familiar Microsoft Excel documents to control the format, structure, and location of information; to manage the distribution of information; and to implement and maintain corporate best-practice policies and procedures. An intelligent, web-based "no-touch deploy" architecture enables administrators to release new data, worksheets, or business rules—or to change security rights—without having to visit each user's PC. Changes are made once in a central location and applied to end-user clients automatically at the next connection, without any additional administrator effort.

Benefits for Organizations

OBA solutions enable organizations to:

- Improve and protect the integrity of data used in the financial analyses that inform critical business decisions
- Speed access to the most current data
- Eliminate the cost, inefficiencies, and risks of creating and maintaining multiple versions of data and business logic in end-user systems across the enterprise
- Maintain audit logs that help to comply with regulatory requirements and more easily prove the accuracy of information reported to stakeholders, auditors, regulators, and the public
- Administer and control ad hoc, user-developed applications more easily

OBA Cases Studies

EMC Consulting has helped financial services firms improve information integrity for a variety of purposes.

Portfolio Management for Real Estate Investment Firm

Problem: A real estate investment management firm with \$20 billion of assets in North America, Asia, and Europe relies on a risk management team to continually optimize its portfolio. The group maintains a comprehensive asset management database and uses Microsoft Excel spreadsheets to run analyses on many different types of properties and financing tools. Individuals manually transferred data from the database into spreadsheets for analysis. Team collaboration required entering the same data in multiple spreadsheets.

Solution: EMC Consulting developed an Office Business Application that uses web services to call information directly and seamlessly from the asset management database and pull it into the familiar Microsoft Excel client application. The OBA further protects information integrity through user access and version control.

Results: Direct, realtime data query of source data provides faster access to the latest, accurate information. No training or additional software licenses were required because the team already used Microsoft Excel. Administration and maintenance of the new application are simple, with changes made centrally and clients automatically updated at the next connection. By simply adding new business rules, the company has been able to begin using the OBA to improve financial analyses in other departments.

“EMC Consulting enabled us to automate the calculations used in our capacity management models, so that now we can connect management scorecards directly to production data and perform analyses in real time.”

**Product Controller, Treasury Services
Finance Group**

Realtime Capacity Analysis for Financial Services Firm

Problem: One of North America’s largest banks and most diverse financial services firms uses a capacity management system to identify new revenue opportunities. A cross-functional team of product management, sales, bank operations, and IT personnel review projections and set performance targets each quarter, which are reviewed with a capacity management steering committee. The team was manually transferring cost and production data from enterprise systems into Microsoft Excel models to analyze opportunities, perform monthly calculations for each product, and generate results for management scorecards. Although these analyses drive decisions about major revenue opportunities, the company could not ensure that the information was current, accurate, and secure because there was no version control and no way to control access to data, macros, and routines.

Solution: EMC Consulting built an OBA solution that connects the financial models directly to the enterprise LOB systems that contain the cost and production data needed to perform the capacity analyses. The solution directly queries data in the capacity management system, pulls it into Microsoft Excel models for analysis, and automatically routes output to management scorecards and dashboards, which are viewed in Microsoft SharePoint® by the executive decision-makers. The OBA provides version and access control.

Results: The team now performs capacity analyses and reviews output via dashboards in real time to pursue new revenue opportunities quickly, rather than on a monthly or quarterly basis.

Business Performance Measurement for Regional U.S. Bank

Problem: This leader in consumer and commercial banking, as well as small and mid-market lending services, needed to enhance its integrated profitability measurement and reporting systems to provide its expense and resource center managers with more timely and accurate information and to establish an automated, criteria-based rate administration process for Activity Based Costing (ABC).

Solution: EMC Consulting developed an OBA Business Performance Measurement system that monitors unit cost in a monthly production environment, including capacity utilization calculations and cost components (fixed, semi-variable, and variable). The system alerts the Cost Accounting Group when rates are no longer representative of the current processing environment. A variance analysis module determines why and triggers a refresh of information within the Activity Based Costing Module. The solution dynamically integrates data from multiple enterprise systems using web services. Calculated values are then propagated back to enterprise data sources. Workbook models are “scheduled” for calculation, and multiple cost centers share models. The calculated data is used to generate dashboards and reports that are displayed in Microsoft SharePoint Server and provide business intelligence to the entire Business Performance team.

Results: Now cost-accounting rates and rules are continually monitored and updated only as necessary, as determined by management-set criteria. Benefits include streamlined rate administration in production; more accurate analysis of current operating results; and results measured against targets.

Conclusion

As stakeholders, regulators, and the public demand higher accountability and better results, controlling the quality of the data and business logic used in financial analyses becomes increasingly essential. Organizations can work with EMC Consulting to develop OBA solutions that eliminate the cost, inefficiencies, and risks of creating and maintaining multiple versions of data and business logic in ad hoc spreadsheet applications across the enterprise.

EMC Consulting

As part of the world’s leading developer and provider of information infrastructure technology and solutions, EMC Consulting transforms information into business results. Our consultants bring a unique mix of industry, business, and technology expertise to solve today’s toughest challenges. We use field-tested tools, proven methodologies, best practices, and industry standards to minimize risk and optimize time-to-value in our engagements. We provide a full range of consulting, design, implementation, and support services.



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