Results

The FFIEC found the use of XBRL in its new Call Reporting process has produced a range of measurable benefits as well as qualitative enhancements. It provides much more accurate data more quickly, improving decision making, and has greatly reduced the effort involved in validation and related manual tasks, saving costs and boosting efficiency. It has improved business processes, providing a robust, flexible and scalable system, which is easier to manage, as well as delivering much stronger analytical capabilities. Key measurable benefits included:

Data quality

Under the new XBRL system, 100% of bank filings met requirements for mathematical accuracy and 95% met other quality requirements. The comparative figures under the old system were 30% and 66%.

Faster data inflow

Banks now begin filing within hours of the start of a filing period rather than weeks later. This reflects the fact that they are now able to respond to reporting requirements more quickly and ensure data accuracy more easily.

Increased productivity

Each analyst can now cover 550-600 banks compared with 450-500 previously, an increase in productivity of about 20%, reflecting improved data quality and analytical capability.

Faster data access

Data is now available for use within a day of receipt, compared with several days under old, cumbersome validation processes. Quicker release enables faster and better informed decision making by agencies and the public.

Improved control of reporting

XBRL enable changes in reporting requirements to be communicated and adjustments made by the reporting community within minutes or hours, compared with days or weeks under the old system which required significant manual intervention.

Lessons learned

Call Report software vendors, previously unfamiliar with XBRL, approached the project with varying mixtures of enthusiasm and trepidation. The FFIEC found that it needed to provide significant support and guidance documentation to help vendors implement XBRL successfully in their products.

In developing its formula linkbase, which was pioneering work in the use of XBRL, the FFIEC hit various performance issues related to accessing and processing information. However, it was able to solve these through appropriate software and XBRL design. Its findings have been fed back into XBRL International technical discussions and development of specifications and guidance.

Success factors

Special factors which helped the FFIEC to success, in addition to the normal requirements of good product planning, were:

- An open, collaborative approach to the project which involved all stakeholders in plans and key decisions.
- Extensive support of the software vendors who were adopting XBRL in their products, with regular meetings and specially produced guidance documents.
- Cooperation and participation in XBRL International technical groups to ensure a good two-way flow of information and the application of the best available expertise to issues.
- Transparency in definitions and design, particularly of formulae, which aids exchange of data with other government agencies and encourages compatibility.

Next steps

The FFIEC is encouraging other regulators, agencies, and governments to adopt XBRL to improve financial reporting processes and is spreading its expertise through documents and briefings.

It may enhance and adapt its formulas as a new XBRL International specification for formulas is released. One consideration is the possible use of XBRL formulas to enable the "dynamic" definition of the content and presentation of reports based on characteristics of the financial data which they cover. The FFIEC plans to pursue this issue in future releases of its taxonomy framework.

It is also looking to improve the control of versioning of its taxonomies as new mechanisms for versioning are specified.

Conclusion

The FFIEC's new system for bank regulatory reporting was the first project to deploy XBRL on a wide scale in the United States. It has proved a major success, with measurable improvements in data quality, speed, efficiency, process and use of resources. It has demonstrated the large scale viability of various XBRL features, including the use of complex formulae to validate data. It has also shown how software vendors unfamiliar with XBRL can successfully and profitably implement XBRL in their products.

CONTACTS

Further information on the FFIEC's Call Reporting project is available from Jon Wisnieski at ***jwisnieski@fdic.gov.***

For general information on XBRL and XBRL projects around the world, please contact ***info@xbrl.org.***

XBRL® eXtensible Business Reporting Language

XBRL CASE STUDIES: SHOWING XBRL IN USE

The FFIEC and US Banking Regulation

The introduction of XBRL for banking regulation in the United States has proved a major success. More than 8,000 banks have been filing quarterly Call Reports in XBRL since October 2005. Banking regulators on the Federal Financial Institutions Examination Council say its XBRL system has provided major benefits in efficiency, data validation and speed. The Council is calling on other regulators and organisations to introduce XBRL to improve their business processes.

Key features of the FFIEC's use of XBRL

- Regulators representing the Federal Financial Institutions Examination Council (FFIEC) are responsible for monitoring some 8,200 banks in the US. Three agencies, the Federal Deposit Insurance Corporation (FDIC), Federal Reserve System (FRS), and Office of the Comptroller of the Currency (OCC) use quarterly reports, known as Call Reports, to gather information from banks and track their financial health.
- Prior to the introduction of XBRL, the agencies issued definitions of the Call Report data in a variety of different formats, including PDF, MS Word and MS Excel. This forced reporting banks and their supporting software vendors into a significant amount of interpretation and manual manipulation of meta-data and led to other inefficiencies and costs.
- In light of inefficiencies with the old process, the FFIEC turned to XBRL as a means to manage the Call Reporting process and handle communication with banks.
- The FFIEC redesigned the entire process of quarterly reporting through the Call Report Modernisation Project which took an open, collaborative approach and involved Call Report software vendors in the definition of requirements and plans.
- The use of XBRL as the basis of the new system provides the FFIEC with an efficient means of defining and communicating changes in the data required through changes in its taxonomy.
- The new system makes extensive use of formulae embedded in XBRL to enable submitting banks to validate their information, significantly reducing the level of errors.
- A Central Data Repository (CDR) stores information in XBRL and provides regulatory agencies and the public with efficient access to Call Report information.

Chief results

- All 8,200 banks in the US are now filing Call Report data in XBRL each quarter through a smooth and efficient process which enables them to validate their information and make adjustments online where required.
- The FFIEC says the introduction of XBRL for quarterly bank reporting has had significant and measurable benefits, with major gains in data cleanliness and accuracy, an improvement from weeks to hours in timeliness and a 20% rise in the productivity of analysts
- The FFIEC is now calling on other regulators and organisations to introduce XBRL in order to improve their business processes.

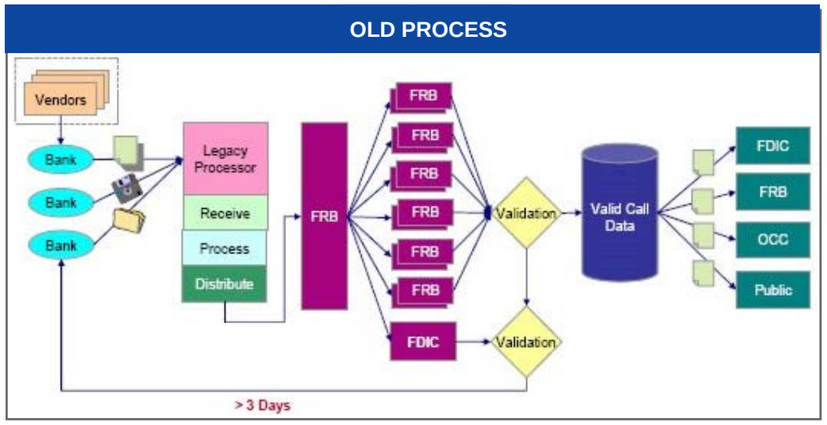
For more information on eXtensible Business Reporting Language (XBRL) and for case studies on other major XBRL projects, see the XBRL International website at www.xbrl.org/CaseStudies.

The background

The Federal Deposit Insurance Corporation (FDIC), Federal Reserve System (FRS), and Office of the Comptroller of the Currency (OCC) use quarterly Call Reports from banks in the Unites States in their monitoring and examination process, to help set monitoring policy and to gather bank and industry data for publication on the Internet.

The old, pre-XBRL process used by the FFIEC for gathering quarterly Call Reports from banks in the US evolved over decades. The passage of time had led to weaknesses in the system. Twenty years ago, publishing data 75 to 80 days after the end-date of a financial quarter might have been acceptable, but today's users demand much quicker data.

All banks filed electronically, using software created by Call Report software vendors to aid in preparing their submissions. The federal agencies, which regularly needed to adjust the content of Call Reports to reflect changing circumstances, communicated the definitions of contents and other instructions through a non-cohesive range of PDF, MS Word and MS Excel documents. Handling information in these formats required significant manual effort from banks and software vendors.



Validation was a cumbersome process. Data was sent via a third party collecting organisation to the FRS and FDIC, which independently checked the data for which it was responsible. Validation included mathematical and logical checks and quality checks against previously reported values. Federal agency staff contacted and discussed errors with banks, eventually entering amendments in their databases.

The FFIEC therefore decided to launch a project to redesign and modernise the process which would:

- Reduce manual effort and automate routine tasks
- Simplify and speed up the steps involved in validation and filing
- Enable efficient amendment of data.
- Provide a flexible and scalable system which rely on consistent technology and provide easy access to Call Report information.
- Be carried through while minimising disruption to the banks which provide Call Reports.

The implementation process

The FFIEC began project planning in 2000 by inviting Call Report software vendors to a roundtable discussion on how the process could be transformed. This initiated an open and collaborative approach to the project process.

After reviewing the options and benefits offered by XBRL in late 2000, the FFIEC incorporated XBRL in its planning. As it moved forward, it found that the proposed use of XBRL enabled and supported a redesign of its business processes. "The planning and testing required for an XBRL implementation can aid significantly in rationalizing and streamlining operations," an FFIEC report on the use of XBRL said.

In particular, the FFIEC identified the value of XBRL in enabling automated data validation prior to the submission of filings and the gains in efficiency from using an XBRL taxonomy to communicate required changes in report content. It determined that its project should, among other things:

- Enable filers to validate their data prior to submission by incorporating error checking in the filing software.
- Give banks the ability, within their filings, to explain valid data discrepancies - thus circumventing time consuming error checking and discussion.
- Support automated data acknowledgement and validation by Federal agencies.
- Enable respondents to make online corrections to their filings.
- Create a Central Data Repository for efficient control and dissemination of Call Report data.

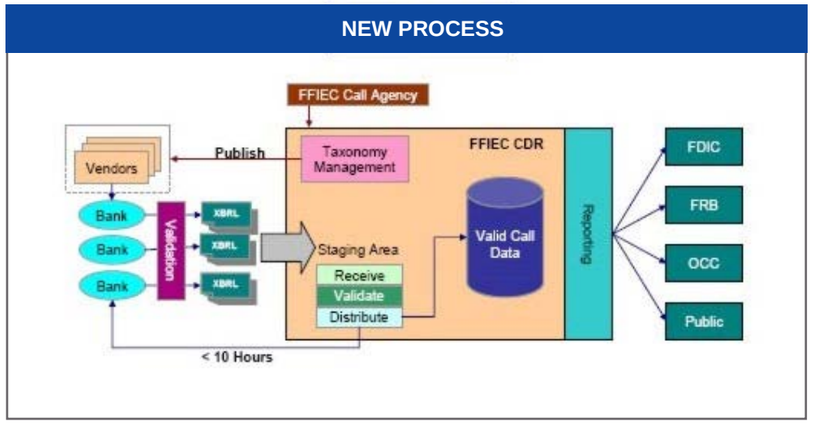
In early stages of its project during 2001, the FFIEC reviewed its data requirements, combining three previous reporting forms into one and then created an initial draft taxonomy. In 2002 and 2003, it carried out a proof of concept test of the taxonomy and all the redesigned processes involved in Call Reporting with support from KPMG.

That led in 2003 to a formal agreement to go ahead with the Call Modernisation project. After detailed review and revision of plans, work began during the second half of 2003 on the development of a Central Data Repository (CDR). This acts as the system of record which not only stores information but allows banks, software vendors and agencies to exchange data and correct errors. The FFIEC used Unisys Corporation to design, develop, test, implement, host and maintain the CDR.

While the FFIEC funded the development of the CDR Project, vendors of Call Report software bore the cost of upgrading their products and adjusting their processes to deal with the new system. Call Report vendors include DBI, Fidelity, Financial Architects, FRS Global, IDOM, ITI and Jack Henry.

In 2004, the FFIEC began exchanging XBRL data with Call Report software vendors, who were among the first companies outside the XBRL consortium to develop software based on XBRL taxonomies. The FFIEC started weekly communication with software vendors, providing as much assistance as possible. As vendor questions became more detailed, the FFIEC created its own technical guidance documents, supplementing XBRL consortium information and reflecting its business practices.

Live filing of Call Reports by banks began smoothly in October 2005 and all 8,200 banks regulated by the FFIEC banking agencies have been successfully submitting reports since that date.



XBRL filing process

Current Call Reports cover some 2,000 data items. The FFIEC taxonomy defines the items, validation formulae and other relevant reporting instructions. It may make regular changes to the taxonomy to reflect detailed changes in reporting requirements - these can be simply and consistently processed by the Call Report software vendors so that banks can identify and provide the appropriate data.

All banking institutions use the Call Report software vendors' products to prepare and file their reports, validating their information before submission. If automatic checking identifies discrepancies in data which is in fact correct, banks can submit accompanying textual explanations, significantly reducing the effort involved in checking and discussion between regulators and submitters.

Reports are submitted using an automatic, high-security transmission system which authenticates the data senders, maintains confidentiality through encryption and ensure data integrity, preventing accidental or unauthorised changes. Automatic receipts are issued for filings.

Submitters are able to correct filings online and in real-time via the Central Data Repository. Security controls ensure that only appropriate and authorised institutions may access a bank's data.

Federal agency staff can use automated tools for reviewing and analysing the information in the Central Data Repository, which also acts as en efficient data source for the public, who can then also benefit from the analytical capabilities supported by XBRL.

Use of formulae

The FFIEC system made extensive and innovative use of formulae in validating data. In developing its formulae, the FFIEC made significant contribution to the XBRL International Formula Specification, which was under development at the time.

FFIEC formulas are a set of mathematical expressions which check for logical inconsistencies in data. One type tests for basic accounting consistency, such as checking that a particular cumulative amount is equal to or larger than its expected components. Another type looks for financial variables which should be reported by an individual institution, given other data it is filing or data it has provided in the past. These formulae reflect the FFIEC's business rules for Call Reporting.

The formulae, which are expressed in Boolean algebra, are defined in a formula linkbase, benefiting from the taxonomy architecture defined in the XBRL 2.1 Specification.

Accompanying the formulae in the FFIEC taxonomy are plain text fields which enable banks to enter explanations for valid discrepancies and fluctuations in their data.