FFIEC Federal Financial Institutions
Examination Council

Improved Business Process Through XBRL:
A Use Case for Business Reporting

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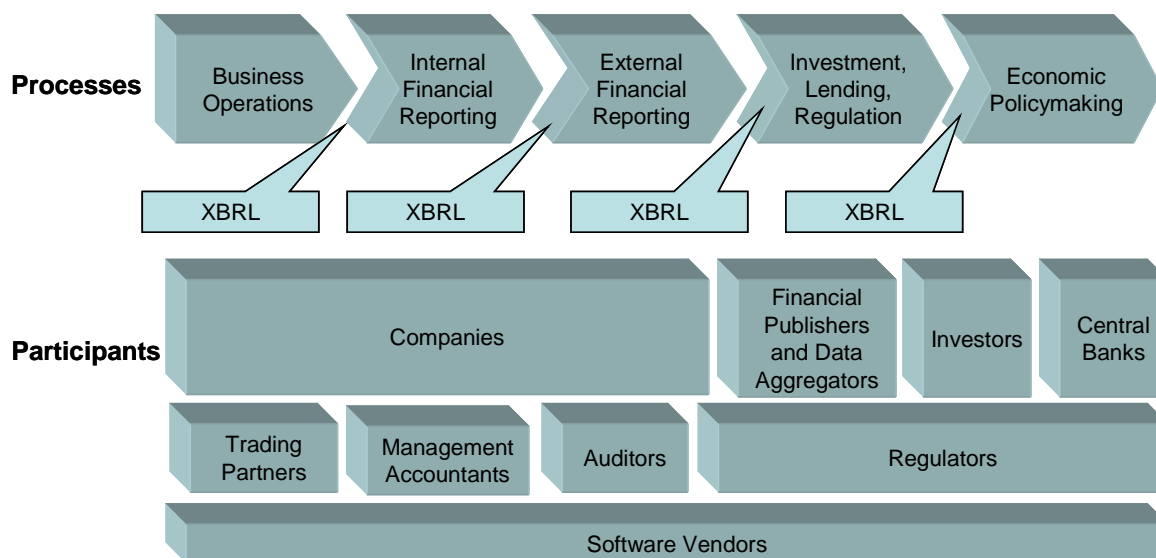
FOREWORD

The business information supply chain (see Figure 1. below) involves a wide variety of stakeholders, including investors, companies and regulators. XBRL[1] plays a significant role as an enabling technology throughout the supply chain, delivering significant benefits and value to each stakeholder.

The purpose of this paper is to explore the high-level benefits XBRL delivers to business reporting, with particular attention to one portion of the overall supply chain – the banking regulatory reporting process and its key stakeholders: the regulatory agencies, the regulated entities/filers, data aggregators, software vendors, investors and other public and private sector groups who rely on the information generated by the regulatory reporting process.

Figure 1. The Business Reporting Supply Chain

If your organization is a stakeholder in this or a similar reporting supply chain, we encourage you to consider the efficiencies and benefits XBRL can bring to your operations and reporting processes.

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[1] **WHAT IS XBRL?** (from www.xbrl.org) The idea behind XBRL, eXtensible Business Reporting Language, is simple. Instead of treating financial information as a block of text - as in a standard internet page or a printed document - it provides an identifying tag for each individual item of data. This is computer readable. For example, company net profit has its own unique tag.

The introduction of XBRL tags enables automated processing of business information by computer software, cutting out laborious and costly processes of manual re-entry and comparison. Computers can treat XBRL data "intelligently": they can recognize the information in a XBRL document, select it, analyze it, store it, exchange it with other computers and present it automatically in a variety of ways for users. XBRL greatly increases the speed of handling of financial data, reduces the chance of error and permits automatic checking of information.

Companies can use XBRL to save costs and streamline their processes for collecting and reporting financial information. Consumers of financial data, including investors, analysts, financial institutions and regulators, can receive, find, compare and analyze data much more rapidly and efficiently if it is in XBRL format. XBRL can handle data in different languages and accounting standards. It can flexibly be adapted to meet different requirements and uses. Data can be transformed into XBRL by suitable mapping tools or it can be generated in XBRL by appropriate software. XBRL is already in practical use for specific purposes in several countries and projects are under way to introduce it in others. Other sections of this web site give news about its use, provide more detailed technical explanations and set out how producers and consumers of business information can adopt XBRL. For more information, please visit www.xbrl.org.

THE PROBLEM:
SIGNIFICANT REPORTING AND BUSINESS PROCESS CHALLENGES FACING BANKING REGULATORS

Issues with Transparency, Quality and Timeliness.

Many regulators share common challenges in their reporting functions:

- Securely obtaining data that can be entered automatically and seamlessly into systems without re-keying, reformatting or other "translation" effort.
- Reducing costs through automating of routine tasks.
- Quickly and automatically identifying errors and problems with filings.
- Validating, analyzing and comparing data quickly, efficiently and reliably.
- Shifting focus of effort more on analysis and decision-making with filers rather than on data manipulation.
- Promoting efficiencies and cost savings throughout the regulatory filing process.

Regulators in the banking sector recognized these challenges and undertook a modernization project[2] to overcome them. Members of the Federal Financial Institutions Examination Council (FFIEC) – the Federal Deposit Insurance Corporation (FDIC), the Federal Reserve System (FRS), and the Office of the Comptroller of the Currency (OCC) – sought to resolve these challenges through the large-scale deployment of XBRL solutions in its quarterly bank Call Report process. In addition, through the modernization project, the FFIEC sought to improve its business processes, including:

- Moving quality assessment and error detection capabilities to the vendor supplied software.
- Embedding the capability to include the institutions' narrative explanations for valid data discrepancies and/or fluctuations in the data transmission.
- Verifying the receipt of transmissions/filings.
- Building facilities for respondents to make online corrections to their Call Report filings.
- Creating a Centralized Data Repository (CDR) where bank Call Report data can be both received from filers and delivered to users.

See **BACKGROUND** for details on the methodology of the modernization project, including descriptions of the legacy process and the new CDR process.

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[2] See www.ffiec.gov for additional details.

THE RESULTS:
FFIEC REAPS MEASURABLE BENEFITS THROUGH XBRL-ENABLED REPORTING PROCESS

Improves Business Processes. Increases Data Quality and Usefulness. Frees Up Resources for Data Analysis. Compresses Time to Publish Data.

Members of the FFIEC have recognized significant improvements in the quarterly collection of financial statement information from U.S. banks through the implementation of a new business process and associated system in the fourth quarter of 2005. (See *Topline Results* below.)

The new system, known as the Central Data Repository (CDR), is the first in the U.S. to employ XBRL on a large scale and represents the largest use of the standard worldwide. The CDR uses XBRL to improve the transparency and accuracy of the financial reporting process by adding descriptive "tags" to each data element. The overall result has been that high-quality data collected from the approximately 8,200 U.S. banks required to file Call Reports is available much faster, and the collection and validation process is more efficient and accurate.
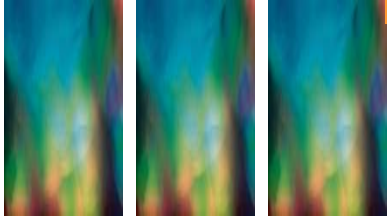
> "If we are truly serious about disclosure and transparency, we need to move aggressively toward the adoption of XBRL."
>
> **Mike Bartell, Chief Information Officer, FDIC**

Improvements to the data collection process have reaped immediate benefits in the timeliness of high-quality data for the banking agencies. The CDR utilizes XBRL to enable banks to identify and correct errors before they submit their data to the federal banking agencies. Consequently, initial third quarter 2005 data submissions were of a high quality received days sooner than in previous quarters, when most data validation occurred only after the initial submission to the agencies.

Topline Results of Call Report Modernization Project Using XBRL

Value Realized	Results Under New Process with CDR	Old Results Under Legacy Process
1. CLEANER DATA		
Requirements regarding data accuracy are better documented and more easily met.	**95% of data received met CDR requirements** – logical business relationships must be true e.g. reported credit card income on the income statement should have a corresponding asset on the balance sheet, and banks were able to provide written explanations for any situations that exceed FFIEC tolerances.	66% clean when received – banks did not have the capability to provide notes when submitting data.

Value Realized	Results Under New Process with CDR	Old Results Under Legacy Process
2. MORE ACCURATE DATA		
Data adds up – 100% of mathematical relationships sum, no follow up required.	**100% of data received met mathematical requirements** – total accuracy and reliability.	70% of data received met requirements – not fully accurate.
3. FASTER DATA INFLOW		
Requirements regarding data accuracy are better documented and more easily met.	CDR began receiving data at 4pm on 01Oct05, **less than one day after the calendar quarter end** (average transmission within 16 hours).	Data received weeks after the calendar quarter – not as timely.
4. INCREASED PRODUCTIVITY		
Staff can take higher case loads and are more efficient – agencies save money.	550 to 600 banks per analyst – **an increase of 10-33%**.	450 to 500 banks per analyst – less productive.
5. FASTER DATA ACCESS		
Agencies receive data sooner and have the capability to publish it almost immediately; public can use data sooner and make better-informed decisions sooner.	**As fast as within one day** after receipt.	Within several days after receipt.
6. GREATER EFFICIENCY		
Staff completes work sooner, can undertake additional assignments; banks' preparation processes are more efficient because they are addressing most issues at submission rather than after the fact.	Analyst workload completed within 41 days after calendar quarter – **15% sooner**.	Analyst workload completed within 48 days after calendar quarter.
7. SEAMLESS THROUGHPUT		
FFIEC Agencies and Call Report Software Vendors consume the same taxonomies, test changes prior to implementation, and ultimately bankers are using the same requirements as the agencies created through XBRL taxonomies.	Within minutes/hours, depending on number of changes.	Within days/weeks, depending on number of changes.

CONCLUSIONS

- Through an open, collaborative approach to business process change, the FFIEC and its stakeholders have succeeded in achieving the improvements sought.
- XBRL helped the FFIEC Call Agencies achieve both measurable improvements and qualitative enhancements to its Call Report process.
- The XBRL implementation had a positive incremental impact on the FFIEC's bottom line and is a viable solution – XBRL increased productivity, efficiency, accuracy and quality.

CALL TO ACTION

Identify business reporting processes that can benefit from XBRL.

Implement XBRL solutions into your business reporting process to achieve:
- *Cleaner, more accurate data;*
- *Increased productivity and greater efficiency;*
- *Measurable ROI and bottom line impact.*

Learn more about XBRL at www.xbrl.org.

BACKGROUND

Achieving FFIEC Business Value through XBRL Implementation

Using XBRL in a business environment offers the potential for worthwhile return on investment, because the planning and testing required for an XBRL implementation can aid significantly in rationalizing and streamlining operations. XBRL offered the greatest potential return to the FFIEC agencies through joint control of a shared facility designed to improve the collection and distribution of financial information about U.S. banks. The key to achieving business value was in the integration of multiple business processes and the retirement of legacy systems.

Business Process Context

The Federal Deposit Insurance Corporation (FDIC), the Office of the Comptroller of the Currency (OCC), and the Federal Reserve System (FRS), known collectively as the "FFIEC Call Agencies," wanted to improve the collection and management of financial institution data. The Agencies focused first on the data gathered in the Consolidated Reports of Condition and Income (also known as Call Reports) and ultimately published in a value added comparison report known as the Uniform Bank Performance Report. They sponsored and collaborated on the Central Data Repository (CDR) Project, calling upon Unisys Corporation to design, develop, test, implement, host and maintain a solution that is compatible with existing stakeholders' systems and that provides for a timelier, more efficient, and higher quality regulatory reporting process.

The Call Report

The Call Report is one of several well-structured and well-defined reports collected from the financial institutions that the FFIEC administers. The Call Report is a quarterly data series of a financial institution's condition and income that is used for multiple purposes, including assessing the financial health and risk profile of the institution. Call Report data is available in electronic format from as early as 1959. FFIEC member agencies, other regulators, state banking agencies and the general public use historical Call Report data for a number of purposes, including analysis of risk and financial health of banking institutions. There were approximately 2,600 variables related to the December 31, 2005 Call Report either collected in the report itself or necessary for processing Call Report information. Even though the Call Report data series are well-defined, instructions and technical requirements were distributed in a non-cohesive manner by means of a collection of PDF, MS Word, and MS Excel documents. Use of information stored in these formats required a significant amount of manual manipulation by each software vendor and reporting financial institution.

> "A principal reason it takes so long [for banks] to release [this] information is that banks have between 30 and 45 days at the end of each quarter to report it… an XBRL system would help regulators do their jobs better and give banks a better gauge of their competitors."
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> *Former FDIC Chairman Donald Powell, speech before the Council for Excellence in Government, June 17, 2003.*
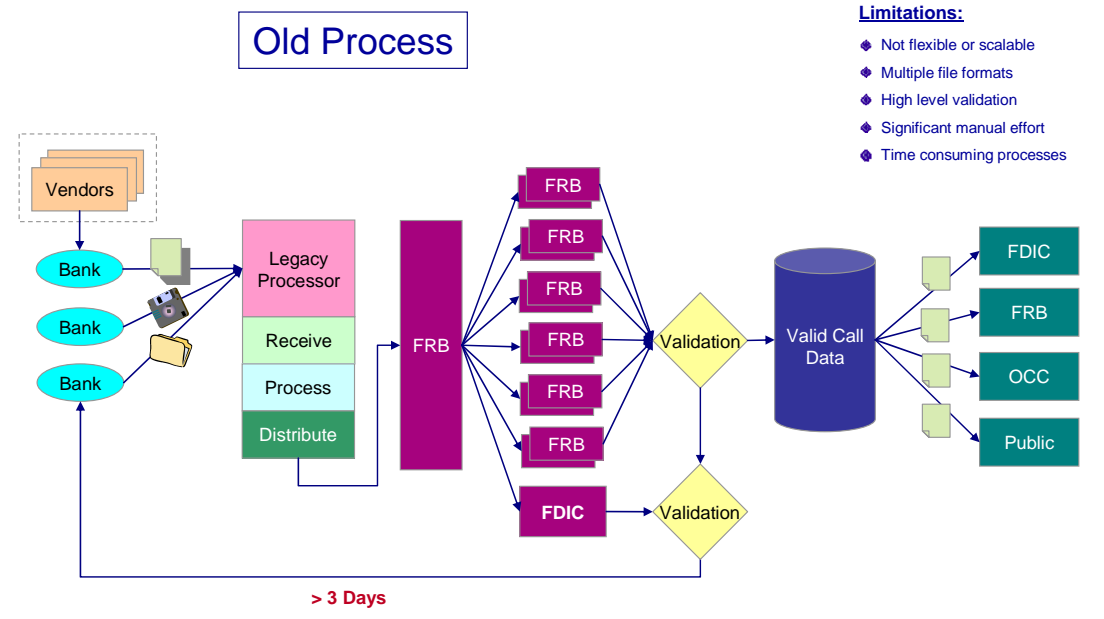
The current process requires reporting by all FDIC-insured commercial banks and all FDIC-supervised savings banks. Financial institutions have 30 days following the quarter-end to submit their completed Call Report data, and institutions with multiple foreign offices are permitted up to 40 days. Since 1998, all financial institutions have been required to submit their Call Report data electronically to the FFIEC Call Agencies. All reporting financial institutions purchase vendor software to prepare their Call Report data for submission.

Legacy Data Collection – An Inefficient Process

A private sector collection and processing vendor acted as the central collection agent for the FFIEC. After receipt of the data from the agent, the FFIEC Call Agencies processed the data. The FRS transmitted all incoming data received from the agent to the FDIC. The FDIC and FRS then performed analyses and independently validated the data series for which each was responsible. The validation process consisted of checking the incoming data for "validity errors," including mathematical and logical errors, and "quality errors." Checking for quality errors included tests against historically reported values and other relational tests. FFIEC Call Agency staff addressed exceptions by contacting respondents and entering corrections and/or explanations into the FDIC's Call System and the FRS's STAR System. In some cases, the respondents were required to amend and resubmit their Call Report data.

Data Collection and Management - Old Process

Old Process

Limitations:
- Not flexible or scalable
- Multiple file formats
- High level validation
- Significant manual effort
- Time consuming processes

Vendors

Bank

Bank

Bank

Legacy Processor
Receive
Process
Distribute

FRB

FRB
FRB
FRB
FRB
FRB
FRB

FDIC

Validation

Validation

Valid Call Data

FDIC
FRB
OCC
Public

> 3 Days

The FRB validates data for approximately 1,000 financial institutions, using a distributed process across the 12 Federal Reserve District Banks. The FDIC is responsible for validating data for approximately 7,000 financial institutions, and uses a centralized process at its Washington, DC headquarters. Historically, the agencies exchanged data continuously to ensure that each had the most recent data that had been validated by the responsible agency. Each agency maintains a complete set of all Call Report data regardless of the agency responsible for the individual reporting institution.

In addition to reporting current data quarterly, institutions may need to amend any previous Call Report data submitted within the past five years. Amendments submitted electronically were collected by means of the process described above. Often the institution contacted the agency, and the agency manually entered only the changes to the data. The validation and processing of Call Report amendments are similar to those for original submissions except that an agency analyst must review all amendments before replacing a financial institution's previously submitted report. Amendments transmitted by the institutions using Call Report preparation software always contain a full set of reported data for that institution. That is, institutions must resubmit the entire report and not merely the particular item(s) that require revision.

Once data have been collected from all respondents and validated by the agencies, the data are made available to outside agencies and to the public. Additional processing is performed to aggregate the data and otherwise enhance their usefulness.

A New Data Collection Model – Accurate, Streamlined and Efficient
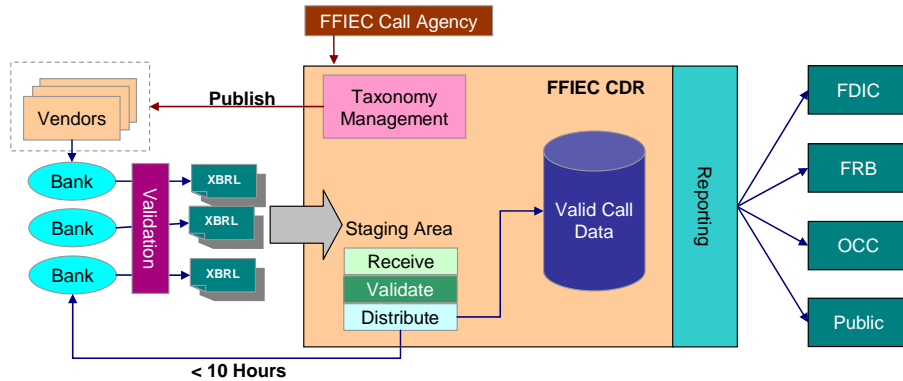The Call Agencies relied on the "Old Process" for decades, introducing enhancements in piecemeal fashion. The Call Modernization project sought to reinvent and modernize the process in order to make it more useful now and in the future for the regulatory community and its stakeholders, while aiming to provide a relatively neutral transparent change to financial institutions. Early in the project, Call Report preparation software
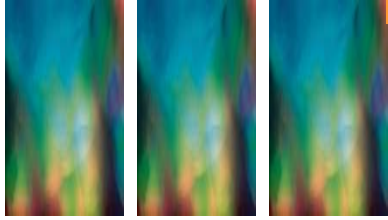
Data Collection and Management - New Process

New Process

Advantages:
- Flexible and scalable
- Consistent file format
- Less manual validation
- Greater automation
- Robust, timely reporting

FFIEC Call Agency

Vendors

Publish

Taxonomy Management

FFIEC CDR

Bank — Validation — XBRL

Bank — XBRL — Staging Area

Bank — XBRL

Receive
Validate
Distribute

Valid Call Data

Reporting

FDIC

FRB

OCC

Public

< 10 Hours

vendors were invited to participate in a roundtable discussion of reporting requirements and practices with an eye towards finding ways to improve it. Based on the findings of those discussions, the FFIEC identified areas to target for improvement in undertaking an inter-agency effort to modernize and improve the legacy process.

It was decided that the FFIEC should continue to provide data collection requirements that include item definitions, validation standards, and other technical data processing standards for the banking institutions and the industry. The banking institutions would continue to utilize software provided by vendors or use their own software to compile the required data. The updated software would provide automated error checking and quality assessment checks based on the FFIEC's editing requirements. The editing requirements would have to be met before the respondent could transmit the data. Thus, all the data submitted would have to pass all validity requirements, or provide an explanation for exceptions. The regulatory agencies believed that quality checks built into the vendor software should play a key role in enhancing the quality and timeliness of the data. Placing the emphasis on validating the Call Report data prior to submission was deemed more efficient than dealing with data anomalies after submission.

The FFIEC was interested in exploring the use of a central data repository as the "system of record" for Call Report data. The data would be sent using a secure transmission network. Potentially, a central data repository would be shared among the regulatory agencies, and possibly with the respondents, as the authentic source of information. Once the central data repository received data, a verification of receipt would be sent to the respondent confirming the receipt. If a discrepancy was discovered in the data, online corrections would be made in the centralized data repository directly by the respondent or by the regulatory agencies during their review.

The FFIEC targeted five specific areas for improvement.

1. Vendor Software
The FFIEC provided Call Report software vendors with an XBRL, version 2.1 taxonomy that provides all content requirements, including unambiguous-Boolean algebraic formulas for data validation criteria, plain English edit messages, capability to capture and report each institution's explanations for valid data discrepancies and/or fluctuations, and common Instance Document output for transmission (i.e., Internet or Web Services).
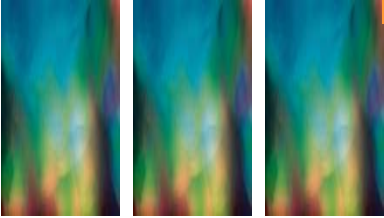
2. Secure Transmission
A high level of security was needed in all phases of the data transmission. Security had to encompass the entire process, from entry point to delivery point. The transmission process had to be automatic, with little or no input from the filing institution.

Therefore:
- The senders of data needed to be authenticated (i.e., we need to be sure we know who is sending the Call Report data).
- The data needed to be kept confidential while it is in transit on the network and when it is being stored, updated, etc.
- Data integrity assurances were needed so that the data is not modified inadvertently by the system/network or by unauthorized users.

- Access to the data needed to be controlled, e.g., one institution cannot access another institution's data; a state banking department has access to its state banks, but not those located in other states, etc.

3. Verification of Receipt
A verification or notification mechanism was required to enable automatic reply to the institutions when the transmission of the data had been completed. In addition, institutions needed to be able to verify receipt of their transmission by logging into the CDR system.

4. Online Corrections
Respondents had to be notified if corrections were needed to the transmitted data. The institutions would have access to their data in the central data repository system. The online correction capability needed to be available in a real-time mode.

5. Central Data Repository
A centralized data repository, "system of record," that banks, vendors and the agencies could use to exchange data needed to be created. Not only would this repository contain source data, but it would also be used to add value to source data and correct data inconsistencies. If the new repository worked well for Call Report data, additional data series could be added over time, hopefully realizing the same benefits each time.

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