

# Automating Appraisal Processing for Mortgage Lenders

## Design and implementation of an automated workflow process for appraisal quality review employing the new MISMO XML data standards.

Victoria G. Cassens-Zillioux, SRA  
Robert L. Frazier, SRA, MRICS

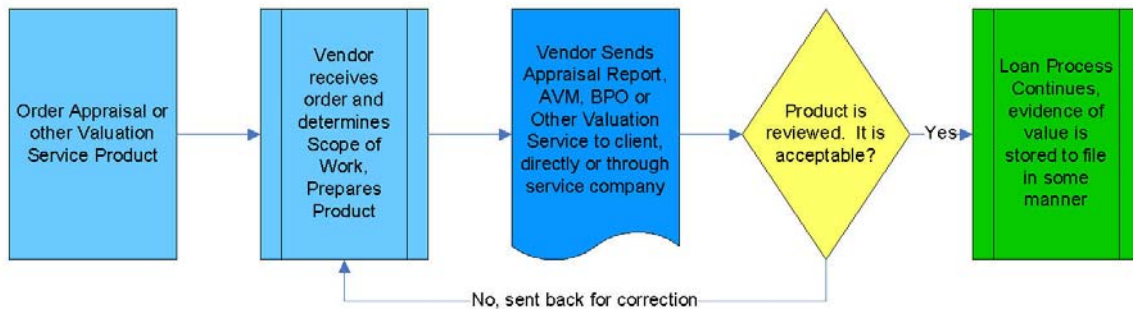
Every residential mortgage originator, lender, appraisal management company, or secondary mortgage market participant requires a system, process or method to order, receive, validate and store the appraisal or other non-traditional valuation report. Whatever the format of the evidence of value - from the time honored paper report to modern electronic data streams - there has to be a way to receive the work product, log it as received in the loan processing system, then process the validation, review, storage and archive of the evidence of value. This article discusses how the process can be simplified and improved by implementation of the newly completed MISMO standard XML data document standards and enhanced with the deployment of companion valuation service products and tools. For discussion purposes, we have segmented the automation discussion into four major areas: Workflow Systems, Resource Management, Analysis Assistance Tools, and Security.

### Workflow Systems

A workflow system can be created and managed as a manual process, a fully integrated electronic process, or a hybrid of the two. While the task of reviewing an appraisal can become quite complex, the workflow process is simple and contains 6 basic steps:

1. Order the appropriate appraisal or valuation service product.
2. Receive and submit status points as the valuation is being performed
3. Receive the completed product from the vendor.
4. Review the appraisal or other evidence of value.
5. Report the results of the accepted product.
6. Store the report in the loan file or in a place linked to the loan file information.

The basic workflow looks something like this:



### Manual Systems

Computer software for appraisal reports became widely available in the mid 1980's. Since 1999, almost all residential appraisers produce their reports using electronic software. Most appraisal management companies and a great number of lenders elect to receive the completed appraisal report as an electronic file, either via proprietary software or more typically a PDF. This basic process has been in place in various formats since the early 1990's. Appraisers performing assignments for mortgage brokers and smaller lenders usually deliver reports to them by the same electronic method. Depending on the business practice of the appraiser's initial client, the appraisal report is either processed, stored and sent forward in its electronic format or printed to paper and added to the loan file.

Whether the lender is managing this process directly or through a vendor management company, the choices are the same: manual, automated, or a combination of both. The old manual paper process was straightforward: the appraiser or valuation vendor delivered a paper report to the lender, someone sorted paper files or documents and dropped them on the desk of the appraisal reviewer, underwriter or associate to which the work item was assigned. Upon completion of the review process the appraisal report was clipped into the loan file. While simple, this process is labor intensive and by the time a 12-15 page residential appraisal report reaches the analyst or underwriter, and ultimately the servicer, it may well be missing a page or two. There have been cases where the "missing pages" were intentionally removed from the file submitted by the appraiser. In other cases, a page or two has been "substituted" or even where the report has been fabricated by someone other than the appraiser who supposedly signed it.

Some of the processes developed in the past attempted to convert the information provided by the appraiser to a format usable by the client's database; the genesis for automated validation, verification and review. The problem has been communication between the individual appraiser's software platform output and the client or lender's mortgage processing system. There were many brave attempts to convince the appraiser to provide the report data in a specific format meeting the requirements of a rigid syntax set by the client (most notorious was the X-12 format). Given that each parcel of real estate is unique and the appraiser is charged with reporting facts, findings and most importantly - analysis, too many square pegs could not be credibly trimmed to fit into the pre-defined round holes. It was cumbersome and expensive for the appraiser, as well as for the AMC's and lenders who required it, and the usable data elements were limited.

Quality review of electronic appraisal report files lends itself well to an automated workflow process. A well designed and fully integrated electronic process will typically include:

- receipt **and dating** of documents and/or work items or requests,
- linking of those items to the loan file data or archive,
- validation that the items are in fact related to the right loan file,
- updating the database and status of the work in progress,
- adding files to the imaging system and file storage,
- applying business rules to determine the appropriate steps or paths of the process,
- moving a work item notification to the queue or attention of the appropriate underwriter or associate
- providing an automated reviewing method to verify and validate the credibility of the report,
- a record of the review decision and documentation of the steps taken to finalize acceptance of the work product,
- providing automated notifications to interested parties
- ensuring that the file has not been altered during the process or transmission between the parties involved in getting it from origination to servicing.

### Moving to Electronic Processes

Most lenders and large management companies have created their own version of a data type to be used internally. Some of these have been hampered in accepting the 2005 updated appraisal report formats due to a need to rewrite their software. A few are still requiring the old, out of date forms due to costs and time required to map new forms to their old data standards.

Appraisal users who process appraisal reports through an electronic workflow system report significant advantages to their process:

- Daily work flow -- ability to streamline the process by making it totally electronic, with bump logic applied to review results without having to manually place additional orders, eliminating human error and oversight
- Validation -- consistent cross validation of pertinent loan information (seller's name, property address, appraised value)
- Responsiveness -- ability to quickly modify the bump logic in place to aggressively reflect changes in the market
- Cost -- cost control through the need for less staffing (and therefore smaller office needs, office supplies, etc.)
- Confidence -- confidence that the appraisal report the lender receives is actually the report submitted
- Work flow follow-up -- better reporting on acceptability of information received (turn time, quality based on value cuts, etc.)
- Deployment of electronic risk analysis and fraud checking tools – comparing data elements from the appraisal to market information and risk scoring streamlines lower risk loans and identifies which cases need higher level review.
- Post Funding/Secondary -- better communication with the investor community to ensure that tools and products used prefunding are acceptable post-funding

### The Advantages of Data Standards

For the past twenty years, the mortgage appraisal industry has attempted to move toward a universal and widely accepted data standard to assist in processing and enhance the processing and communication between business partners and participants. The final development and approval in late 2006 of a universal XML format by the MISMO (Mortgage Industry Standards Maintenance Organization, sponsored by the Mortgage Bankers Association) is the first real breakthrough in a data standard with wide acceptance. Most importantly, the major software providers serving the appraisal community were at the heart of the project. This means that as soon as the users of appraisal services are ready to demand delivery of the report in the standardized format, appraisers can quickly obtain the updated software from their software provider of choice. Once the appraisal is completed, the software will convert the output of the signed report to the MISMO standard format. Upon receipt, the file can be read, verified and validated quickly and sorted for further processing based on the business and underwriting rules of the recipient.

MISMO is comprised of a large number of workgroups engaged in the creation of standardized data elements for the entire loan process including the loan application, processing, title, closing, quality assurance and servicing elements. They will all be written to the same standard and data elements common to more than one portion of the mortgage process will be the same for all. MISMO is also tackling the security aspects of the mortgage process. With electronic file processing and closing a current reality, the means to ensure the security of the data, the personal data of the participants, and validation of the identity of the parties involved is a major component of a useful and universal and reliable method.

The significant advantage of adopting the MISMO standard XML data structure as opposed to an internal or individual data structure is in its more universal application. Business partners in all facets of the loan process are working towards standardized data labels. The volunteers in the workgroups are drawn from the various companies who are users, developers, or beneficiaries of the combined effort.

For those companies with another data standard in place, a data translation table (XSLT) can be deployed to convert their data to the MISMO standard XML. As new changes occur in forms and data elements, MISMO will provide a central repository for this and future implementations and updates will be far less time consuming and costly for all parties.

MISMO's Real Estate Property Information Group (REPI) has completed mapping the data elements of the latest standardized appraisal forms as well as a few of the old favorites. Approval was then received from the centralized Core and Architecture committees so that data elements common to the rest of the mortgage process are re-used where possible, and those elements unique to the appraisal process and reports are defined, providing easier implementation by the appraiser's client's software developers. In addition to the standardized industry appraisal forms, mapping was also completed for non-traditional valuation services, such as automated valuations, broker price opinions, and other real estate related validation products.

To demonstrate the difference between formats, following is a short sample of an address file in a standard pipe delimited format showing the address of a property. For the purposes of this illustration, look for the state where the property is located:

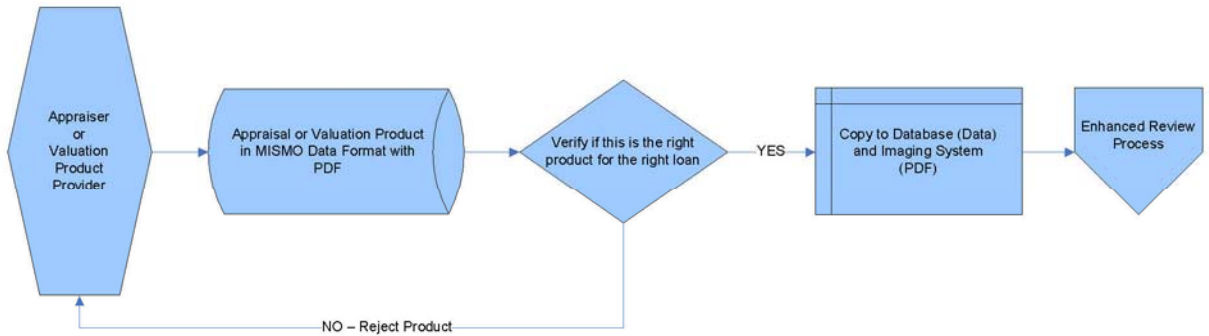
```
1|111111111|123|main|st|unit23|horsehoefalls|md|20854|montgomery|usa
```

Now look at this format, extracted from the MISMO standard. Is the State easier to find? Note that each portion of the address is clearly defined.

```
<!ATTLIST PROPERTY _StreetAddress CDATA #IMPLIED>123 Main St  
<!ATTLIST PROPERTY _StreetAddress2 CDATA #IMPLIED>Unit 123  
<!ATTLIST PROPERTY _City CDATA #IMPLIED>Horseshoe Falls  
<!ATTLIST PROPERTY _State CDATA #IMPLIED>MD  
<!ATTLIST PROPERTY _PostalCode CDATA #IMPLIED>20854  
<!ATTLIST PROPERTY _County CDATA #IMPLIED>Montgomery  
<!ATTLIST PROPERTY _Country CDATA #IMPLIED>USA
```

Developers routinely write translation tables to convert source data into a format that can be used internally. Where that conversion takes place can effect the accuracy of the data. If the user of appraisal services requests (or requires) that the appraisal report be submitted in the MISMO Standard format, the conversion of the data takes place as the appraiser sends the file from his computer.

The new MISMO mapping will allow enhanced workflow solutions and communication of data elements to be widely available to all users and providers of valuation services. The steps in the process expand at each level as needed, but here is an overview of a simplified workflow for initial fulfillment of a service request, all performed electronically.



The “Enhanced Review Process” will be analyzed further in that section of this report.

Currently, all of the most often used residential appraisal forms have been mapped (2005 editions). The REPI committee is finalizing the additional data elements needed for AVM, BPO and other non-traditional valuation services. The accompanying messaging, which provides communication between the parties, vendors and users, is also being standardized. Messaging types are related to placing the order for services, as well as for status updates, cancellations, hold status, completions, and fulfillments.

### Resource Management

The tasks of the personnel involved in the processing and review of the appraisal or alternate products will be significantly enhanced by the improvement in electronic data flow. Workflow and processing can be better structured to enhance both productivity and quality. Efficient routing of work items assigns the right level of work product to the right level of analyst or employee.

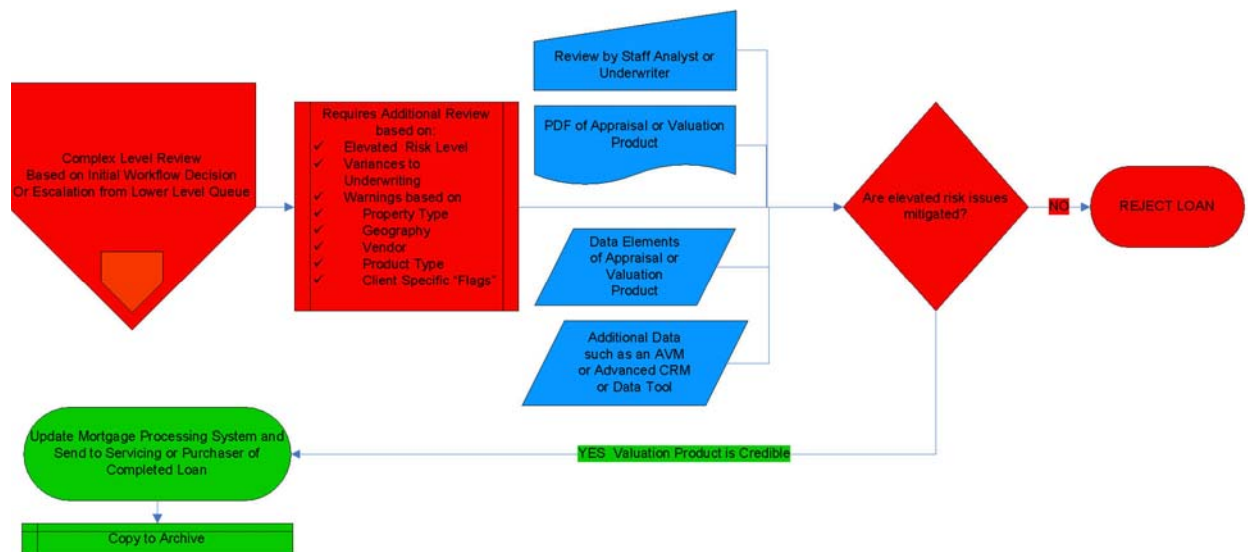
Electronic workflow systems allow for Flexibility with shifts in the market and/or employee availability so that slowdowns and backups can be minimized. These systems can be hosted in one location and its users located elsewhere (literally anywhere in the world) as many allow for outsourcing so that the advantages of variable expense and geography can be maximized. Management is enhanced as work items can be processed, escalated, counted, and reviewed by a manager at another location. Implementation of business rules in the process allows for better work item sorting and control.

From the manager’s viewpoint, another major advantage is in production and quality reporting. Since the workflow system collects the information from each transaction, reports can be designed to analyze turn time, productivity and quality, both for external vendors and internal employees. Tracking of individual appraisers, supervisors, and trainees within the vendor’s firm is possible as a MISMO standard format captures the name and license number of the appraiser and supervising appraiser for each report. This also allows the lender to quickly pull up a list of all reports in which that appraiser participated. Tracking of improvements as well as declines in productivity and quality can be reported and managed.

### Analysis Assistance Tools

The most significant advantage to the data element based process comes with automated deployment of validation and review tools. Preliminary validation can be done to check that the incoming product matches the loan information, and then apply its business rules to the data received. The output of the business rules logic routes to the next step of the process and/or assigns it to the workflow task list of the appropriate employee. Connection to another partner/vendor to provide risk analysis, review and

validation data happens instantaneously and as it feeds more data to the business rules engine, higher level and more accurate decisions are made.



Review process tools currently in place at major mortgage participants include Collateral Risk Measurement, AVM, BPO, Desk and Field Review components. The multi-level workflow rules engines analyze the data submitted by the appraiser or other provider, compare that data to the validation data received from that vendor, and then can be set to pass the product on for closing, or order and receive another product or series of products if additional review and validation is needed.. The sensitivity of the variance between data points received can be set to trigger an order for additional products and services or to pass along the product for closing if the rule is satisfied.

When the workflow assigns the product to a staff member for review, the data products received from the vendor are available for analysis support, providing relevant data to enhance the review decision. This produces faster and better-informed decisions.

## Security

Security of the appraisal report involves three main components:

- security of the appraiser’s signature, so that the user can be assured that the report is the work of the licensed or certified appraiser assigned to the case
- security of the document to ensure that it has not been altered, abridged or changed by anyone other than the appraiser who completed the report.
- security of the document while in transmission from the appraiser to the user so that it will not be visible to unauthorized persons.

For many years, apocryphal stories have circulated about how unscrupulous loan originators or processors would alter the appraisal report by “whiting out”, “typing in”, “replacing pages”, “losing pages” (especially those that detailed reports of poor condition) , etc. The advent of electronic appraisal reports initially frustrated the bad actors in cases where the lenders’ workflow received the electronic report and moved it to the desktop of the reviewer. There were no papers to lose, change or substitute. Not to be permanently stymied, the perpetrators of this type of fraud developed new methods.

There have been verified incidents of loan officers having obtained software to write appraisal reports and to produce their own version of the appraisal needed to accomplish the closing of the loan transaction. Most recently, there has been a dramatic growth in reports of appraiser identity theft. The perpetrator either copies a name and license number from an existing report, or just goes to the asc.gov website and looks at the federally mandated roster. An article written by Brian Weaver of Chicago detailed a surprising number of cases where the eventual purchaser of the loan contacted the “signing appraiser” for updates, corrections, or questions but the property had never been appraised by that person.

To combat this, many secondary market lenders are following the lead of Greenpoint Mortgage and conducting a verification of the appraisal report to ensure that it was performed and signed by the person whose name and license number is indicated on the report. This absorbs resources of both time and money, however, this is occurring frequently enough on a monthly basis to justify continuation of the process.

The MISMO Security Committee has undertaken the task to assist the REPI Committee in identifying, investigating and recommending “best practice” methods to ensure that the appraiser’s identity, signature, and work product can be protected. The providers of appraisal software will make this technology available to their appraiser clients, perhaps incorporated into the appraiser's signature or as in the SMART Document specification. In any case, the lender must be capable of verifying a signature and ensure that the appraiser report has not been altered.

### **Conclusion**

Mortgage originators, lenders, appraisers, appraisal management companies, secondary mortgage market participants and servicers will benefit from deployment of automated appraisal data. Implementation of the newly completed MISMO standard XML data document standards is a reliable and low cost way to streamline the process while improving efficiency and accuracy throughout the loan origination and servicing process. The process provides a natural opportunity to enhance the security of the appraiser’s work product and identity.

Support of these efforts is essential throughout the mortgage industry to make MISMO efforts a success. The dedication and support of MISMO members is illustrated by the wide variety of organizations who are willing to provide representatives to the individual workgroups to attend MISMO meetings and supply the necessary time and energy to move the project forward. Moving the mortgage industry into a fully electronic transaction based system is a huge task to be undertaken, however, teamwork and dedication are supplying the necessary elements for success.